

gether with this there is confusion, poverty of thought and dis-orientation in time and place. Visual hallucinations may also be present.

Pathology: Alcohol appears to have a selective action like the virus of syphilis, on the central nervous system, for there may be all grades of neuritis without mental symptoms and vice versa. Strangely enough cirrhosis of the liver is not often seen post-mortem in mental hospitals as in General Hospitals. It may be that the nervous system of cirrhotic patients is more stable than those who are admitted in mental hospitals. Post-mortem the brain is wasted especially in the frontal lobes. The main organs show fatty degeneration. The peripheral nerves are inflamed and swollen and the myelin sheaths are broken up and replaced by fibrous tissue.

Treatment: Admission to a mental hospital will be necessary as the condition may take from 6-12 months to improve. Rest in bed is imperative. Begin with the elimination of the toxins which cause it, by free purgation. Nervine tonics such as Easton's Syrup, are helpful. Pain and tenderness along nerve tracts should be treated with massage, heat, and galvanic current. Hot baths and packs will be most soothing. Treat foot and wrist drop. As the physical state improves so does the mental. Simple occupations whilst the patient is in bed must be prescribed. The treatment of the mental state is on general lines.

(5) **Alcoholic Pseudo-Paresis.**

Is a form of paralysis combined with gross mental disorder, occurring in chronic alcoholics. It has also been called "alcoholic pseudo-general-paralysis" owing to its close resemblance to General Paralysis of the Insane. In fact the two conditions are so similar in every respect with few minor physical differences that the two states may be grouped as one and the same disease

conditioned by two different toxic substances in the one case chemical (alcohol) and the other organic (spirochete). However in following the time honoured custom the two states are described as separate diseases, both for purposes of teaching as well as statistics. The physical signs are those of chronic alcoholism but in a more pronounced degree. Tremors, twitchings and cramps may be severe enough to resemble convulsions. The lips and tongue are so affected that articulation is defective. The deep reflexes may be absent or sluggish and as in Korsakow's syndrome the gait is ataxic.

Sensory disturbances, hyperaesthesia at first and then anaesthesia are present as well as perversions of the special senses of taste and smell. The pupils are unequal and sluggish to light. The complexion is sallow and the body weight falls.

Mental state:— Is one of confusion, disorientation in time and space. Memory and judgment are grossly disordered. Delusions of grandeur or persecution are prominent. Hallucinations of sight, hearing or taste are also present. Speech and behaviour is indecent and degraded.

Prognosis: With abstinence and institutional care the outlook is favourable and recovery expected within six months. If the hallucinations are persistent the outlook is more unfavourable and these cases usually end in dementia. In most cases an improvement in the physical health is followed by mental recovery.

Diagnosis: This largely depends on the history of chronic alcoholism and the physical signs. If to this syphilitic infection is superadded the differential diagnosis from General paralysis of the insane is more complex. The chief points of difference are as follows:—

Alcoholic Pseudoparesis
Age—Men of middle age

General Paralysis—
Men of middle age.

History—Chronic alcoholism.	Venereal infection. Alcoholism may be first symptom.
C. S. Fluid—normal—	Wassermann Reaction and Lange gold Test positive.
Gait—ataxic—"tottering"	Shuffling.
Tremors—Upper part of face.	Lower part of the face.
Tongue—fine surface rippling.	Coarser tremors (trombone movement).
Knee and ankle jerks—May be plus or absent.	Usually absent, may be "floppy".
Pupils—unequal and sluggish to light.	Argyll—Robertson type. Light reflex lost, accommodation present.
Mental Changes : Gross disturbance, confusion, disorientation and delusions at the beginning.	Subtle changes in character and disposition in early stages, delusions later.
Recovery—more usual within a few months.	More remote but favourable with drastic treatment.
Treatment —Spells institutional care. With abstinence nourishment and nursing, massage and electricity the physical state improves. Hydro-and occupational therapy will be required for rest as well as adjustment. Hypnotics for insomnia and excitement must be given cautiously. If however the hallucinations persist and confusion still continues hydrotherapy may be tried when the physical state permits. There is no reason why malaria induced should not be as curative as in General Paralysis. It should be given a trial as a last resort.	

(6) **Alcoholic Paranoia.**

In rare instances of alcoholism the mental picture is that of paranoia. The end result of the toxæmia is the development of

delusions alone, the other symptoms of intoxication being absent. In the early stages there may be hallucinations but they are not as varied as in the other alcoholic states. Besides, the delusions here lack systemisation and are of a persecutory nature. If married the patient usually accuses the other partner of infidelity. He suspects friends and relatives of plots against him and sees a hidden meaning in every thing around him as part of the designs against him. He will even ascribe his own intemperance to his wife's or relatives plot to intoxicate or poison him. Prognosis is unfavourable, such patients tend to deteriorate slowly, but if kept under care and control may improve. Relapses on discharge to their homes are common.

(7) Chronic Alcoholic Hallucinosiis.

This condition must not be confused with the chronic Hallucinatory psychoses whose origin is different. In the course of alcoholism the end result may be chronic disturbance of one or more of the special senses producing persistent hallucinations which are the most striking features. Instead of gross disorder of behaviour or judgment, or destruction of nerve tracts, the toxins would appear to concentrate on disturbing the endorgans of sight hearing or the skin. From this hallucinations rise and are the main complaint. At first they are nocturnal but later constant. They are not terrifying visions or voices, but usually persecutory, abusive or accusatory. "Cutaneous sensations" are more rare. The hallucinations produce disordered judgment and this in turn goes on to dementia. Though the emotional tone is one of anxiety and irritability they are amenable and well behaved.

In course of time the hallucinations fade but dementia now rears its sign to the end.

Treatment of alcoholism in general.

Alcohol as we have seen is a psychological necessity for some people. The basis of alcoholism and drug addiction is flight

from reality to solve serious mental conflicts. If alcohol or drugs were unattainable the next solution is flight into psychoses, crime or suicide. Hence these drugs may be considered as "blessings in disguise" to men.

The approach to the problem must therefore be an attack on the basic psychological factors and resolves itself into two main paths (a) the breaking of the habit (b) psychotherapy.

(a) **Breaking the habit**—The lessons of prohibition in America in recent years are sufficient warning of the futility of legislation to curb human cravings and the sooner politicians, preachers and reformers realise this the better. In moderation alcohol is beneficial to health and longevity; unfortunately not all know moderation. When the habit is established to the abnormal limit it must be broken by withholding alcohol. In the patient's own home it cannot be done. He will either get it slyly or refuse to be treated. The next best place is a nursing home or a hospital. Unfortunately India has not got an Inebriates Act nor is there a home for inebriates in the whole country. In an institution two methods of stoppage can be tried and depends on the severity of the case. The first is complete and immediate cutting off all supply and the second is gradual tapering off. The first method has the danger of producing abstinence symptoms, i.e., delirium tremens in a chronic subject or a heavy drinker but the distress of craving is not as acute as in the case of morphia or cocaine addicts. In the case of alcohol, the consensus of modern opinion is that it should be cut entirely at the start. To combat insomnia and restlessness the bromides or other mild hypnotics should be prescribed.

(b) **Psychotherapy**—One or all of the following methods should be tried.

(1) **Persuasion**—The first thing to remember is that most alcoholists come with a sense of inferiority or guilt attached to their state and looked upon as worthless by friends and relatives. Some may have even been under the eye or in the hands of the police. They are usually sorry for themselves and their own attempts to “pull yourself together” have been futile simply because they are lacking in will power. Persuasion by itself will not effect any change unless one can appeal strongly enough to his sense of rectitude and his emotions. In the face of some sudden strong emotional experience addicts have been cured. Emotional persons can also be benefitted by an appeal to their religious sentiments and by stirring their imagination to a life of new and higher ideals.

(2) **Suggestion** Certain types of patients such as psycho-neurotics, the feeble-minded, the unstable and those who are old can be helped a good deal by suggestion. The strongest method of course is hypnotic suggestion; but the defect of both suggestion and persuasion is that they deal only superficially with the symptoms and do not touch the root of the trouble or conflict.

(3) **Psycho-analysis**.—This is the only certain method of straightening out the crooked paths that have led to the morass of neurosis. Only in an institution, where a specialist is available, can a detailed analysis of the Freudian type, be undertaken, but it means a cure even if it takes time and expense.

The general practitioner however can employ shorter methods of simple analysis. A little knowledge of mental mechanisms is better than none and even if one can get a patient to do a “free-association” where he does all the talking and you are a silent listener for an half hour daily at least, more can be accomplished than is believed possible. Through analysis one can unearth the

conflict or emotional stress that has gradually given rise to the addiction. By re-education the patient can be made to see himself in a new perspective and from that remodel his pattern of life. At the same time environmental barriers or maladjustments must be put right. The prevention of addiction however is far more important and interesting than its cure. From a study of the origin of the neurosis it should be possible for us to produce in time a sufficiently well balanced race who do not need drugs or alcohol.



CHAPTER VIII

Psychoses associated with organic brain disease.**General Paralysis of the Insane.**

General paralysis is a progressive disease of the central nervous system the result of degenerative processes due to the direct infection of the Spirochete of Syphilis. It was defined by Osler as a "Chronic progressive disease of the brain and its meninges associated with psychic and motor disturbances finally leading to dementia and paralysis".

History: In 1672 Willis drew attention to the association of mental disorder and paralysis. In 1798 Haslam described the disease for the first time. The name "dementia paralytica" was given by Baillarger in 1846. In 1857 Esmarch and Jessen proposed that syphilis was the cause. In 1913 Noguchi definitely demonstrated the spirocheta pallida in the brain.

Etiology Syphilis affecting the central nervous system is the main cause of General Paralysis. It is a disease of civilisation or as Kraft—Ebbing puts it "Civilisation and Syphilisation". In over 90% of cases the Wassermann reaction is positive in the blood. The cerebro-spinal fluid is also markedly positive. Only about 4% of syphilitic persons appear to develop general paralysis and this lent support to the theory that a neurotropic form of spirochete was responsible for General paralysis and has an affinity for the central nervous system. In only 40—50% of cases of G. P. I. is there a psychopathic family history or of alcoholism or other neuroses. It would appear therefore that syphilis readily attacks a nervous system that is already weakened. Hence the mildness of the primary sore or signs of secondary infection. G. P. I. usually takes about 10 years to develop after infection. A juvenile form of G. P. I. is also known, due to congenital syphilis. Males are mostly affected and they usually about

middle age. Juvenile G. P. I. appears before twenty. No age and class is immune from syphilis of the brain but men in some occupations are more prone than others. Soldiers head the list, the clergy the last and least. The well to do men of business and society are more affected, while others claim that the labouring classes have a higher percentage. Prolonged physical and mental stress as well as privations are equally predisposing as the excesses of the idle rich. It has also been said that G. P. I. is comparatively rare among Asiatics and other coloured races though syphilis is rife in the East—The researches of Colonel Berkeley-Hill support this view. A Wassermann survey of the inmates of the Ranchi European Mental Hospital in 1921, showed that 39% of the population had a positive reaction, yet none of these were general paralytics. Accordingly there would seem to be not only a neurotropic variety of spirochete, but also that the spirochete of syphilis in the West is of a different strain to that in the East or that the Eastern variety is attenuated by malaria or other tropical infections. Again, G. P. I. in orientals is commoner among those who have been overseas to the West. However, as more detailed physical and serological examinations are carried out to-day in mental hospitals, G. P. I. among Indians is being oftener recognised.

Whatever other determining factors there may be it must be remembered that without syphilis there can be no G. P. I.

Physical signs: Three stages of the disease are recognised. Between the primary infection and the onset of General Paralysis there is an interval of anything from 10 to 20 years and this is probably the incubation stage. The early stage is very insidious. At the outset the patient is thin and in poor health and suffers from headaches, anorexia and insomnia. In the second stage he becomes fat and bleated, unhealthy, the muscles are lax and flabby.

He presents fine tremors of the face and hands and his speech is slurring and writing becomes a scrawl. His gait is unsteady and the tendon reflexes are "floppy" but in tabo-paresis are lost. The pupillary reactions are characteristic the light reflex being lost, but accommodation preserved (Argyll-Robertson Pupil). The third stage is one of extreme emaciation. The bones especially the ribs become fragile and easily fracture. Epileptiform or apoplectiform seizures are now common leaving a mono-hemi-or diplegia. The sphincters are affected and from this bed sores due to pressure and soiling arise, and usher in a rapid end.

The main physical symptoms may be summarised as follows :—Incoordination is most persistent—Fine movements are clumsily executed. Finger to nose test is done jerkily. There are tremors of the hands and fingers, Writing is therefore difficult or scrawling. Muscles of the lower part of face are tremulous and the tongue has coarse jerky movements (trombone).

Speech—is slowed and the last syllables clipped off.

Gait—is unsteady-Rhombergism may be and usually is present, turning is difficult and in the last stage definite paralysis, sets in.

Reflexes—In the early stages the tendon reflexes are either exaggerated or "floppy" but as tabes progresses they are lost. The superficial reflexes are also absent and Babinski's sign is absent. The pharyngeal reflex is lost early.

Pupils—The consensual and light reflex is lost early but accommodation is preserved. The pupils are irregular and unequal. Optic atrophy may ensue. The Argyll Robertson pupil is the result of destruction of fibres of the third nerve.

Sensation—Cutaneous sensibility is perverted, sharp pain, numbness itching etc. occur. Later anaesthesia is present, painful

stimuli pass unheeded. Bed sores develop early over pressure points and are helped by the soiling of the Bed clothes. Perforating ulcer of the foot is also met with.

Convulsions—Seizures ranging from petit-mal to apoplexy are met with in all stages of the disease. Sometimes the initial symptom may be an epileptiform attack, but it is more common in the second stage. A seizure in a middle aged person for the first time, who has neither cardiac nor renal disease is strongly suggestive of general paralysis. The fits may be localised or general and consciousness may or may not be lost. They are exactly like those of petit-mal. Jacksonian or Idiopathic Epilepsy (Grand mal) or apoplexy with coma. The seizures are followed by transient or permanent paralysis, which affects particularly that mechanism on which the patient depends most, the athlete his legs; the artist, his arms; the singer, his voice, etc. The fits are followed by mild fever. Contractures of the paralysed part set in leaving the patient huddled up in bed. The final stage is pneumonia due to septic infection of the respiratory passages or cystitis or pyonephrosis.

Pathology—Almost every system in the body is affected proving the toxic nature of the disease, but the most noticeable changes are seen in the central nervous system. The body is much wasted and is like a bag of bones. Microscopically the skull is thickened and the diploe fused. The membranes of the brain are thickened and opaque. Dura is thick and adherent to the skull (pachymeningitis) with a false membrane below it which may be delicate and thin or tough, and is due to an excess of fluid or clot, formed probably by oozing from unsupported degenerate vessels. This is very characteristic. The Pia is opaque, congested, oedematous and adherent. Stripping causes decortication of the surface of the brain. This is pathognomonic of G.P.I., especially in

an early post mortem examination. The brain is wasted and of less weight than normal, the frontal lobes being more effected than the temporal or parietal. The ventricles are dilated and granular. The tip of the calamus scriptorius in the forth ventricle is markedly granular or frosted, due to neuroglial proliferation under the ependyma, Microscopical examination reveals infiltration of lymphocytes round the small vessels in the grey matter. The neuroglia are increased and the cells enlarged and distorted, "spider" and rod cells are numerous. The cortical cells are in various stages of degeneration, shrunken, with eccentric nuclei and the chromoplasm diminished. When stained by the Weigert-Pal method the association fibres are seen to be markedly degenerated. The cranial nerves and spinal column when stained by Marchis method reveal Wallerian degeneration in the former and degeneration of the posterior columns of Gall and Burdach, as in tabes, in the latter. Most important of all is the demonstration of the Spirochete in the substance of the cortex cerebri.

The cerebro-spinal fluid also presents marked changes.

(1) Excess of lymphocytes and presence of plasma cells.

(2) The Nonne-Appelt test i.e., the addition of a saturated solution of ammonium sulphate to an equal quantity of the fluid—reveals an increase of globulin.

(3) The Wassermann reaction is positive and may remain so for a long time in spite of ordinary antisyphilitic treatment. But when salvarsanised serum is injected intrathecally it is far more efficacious and the Wasserman reaction does disappear.

(4) The Lange colloidal—gold test gives a typical colour reaction. It is an extremely delicate test. A series of dilutions of cerebro-spinal fluid and colloidal gold solution are made and the colour changes noted. In G.P.I. the highest dilutions show com-

plete decolorization like water, and gradually taper to no change in the last tube. This typical change or 'curve' as it is called is quite different to that characteristic of tabes where the changes (partial decoloration) are seen in the intermediate tubes only. In simple meningitis and cerebral abscess different curves are noted. In disseminated sclerosis however a "luetic" curve may be obtained but the negative Wassermann reaction clears the diagnosis (Lovell).

Mental Symptoms—It is usual to divide the symptoms as with the physical signs into three stages which merge one into another without any line of demarcation.

First stage—Before any mental symptoms are manifested there is noticed a subtle change in the patients disposition. The faculties that are acquired last are the first to go. The fastidious person becomes careless, the hard business man slack in work, memory for recent or coming events is impaired and there is loss of control over emotions and fine judgment. Gross irritability is a feature and loss of self control leads him to excesses. He begins to drink heavily, gambles, becomes extravagant, reckless and behaves improperly in public, and this last leads him into the hands of the police. Delusions of grandeur of an expansive nature are an early sign. He believes he possesses untold wealth, power and majesty. In short he is omniscient and omnipotent. Yet if questioned of his abilities he will give irrational answers. Loss of intellectual power is easily demonstrated by Joffroy's symptom. He adds or multiplies from left to right and a simple sum as 15×4 is worked out as follows :

$$\begin{array}{r} 15 \\ 4 \\ \hline 420 \end{array}$$

His letters become a scrawl of nonsenses. At this stage he is usually certified and placed in an institution. Here he makes friends readily, begins to collect rubbish of all sorts, is fidgety, loquacious and prone to buffoonery. He will eat ravenously at all times and his attire is untidy and unkempt. He may also be wantonly destructive and noisy. His emotions are very unstable. In the midst of his hilarity if asked how his wife or children are he will burst into tears. He can as easily revert to laughter or anger. Speech is often a jargon of neologisms. Slurring is also noticeable early. Hallucinations both visual and auditory may be present. The modes of onset may assume a maniacal or melancholic form and resemble a case of manic depressive psychosis.

Neurasthenic form: The usual symptoms of neurasthenia such as undue fatiguability, irritability, undue dislikes, vague aches and pains and fears may be the prodromal symptoms complained of and when occurring in a middle aged man should rouse suspicion. **Convulsive form:** In this the disease may begin with a fit of the petit or grand mal type or even as apoplexy. The course is rapid and even status epilepticus may be the first symptom and ushers in a rapid end.

Stuprose: The benign or anergic type of stupor may be the main initial picture at the onset. He is not depressed but exhibits total loss of volition, instinct, and emotion, and is mute, wet, and dirty and may remain so throughout his entire illness. Dementia is rapid.

Juvenile form: Juvenile G. P. I. is less frequently met with but does occur occasionally as the result of inherited syphilis and is usually manifest in the 2nd. decade. The physical signs of G. P. I. are all present but the mental picture is either of imbecility or dementia praecox of the katatonic variety.

The second stage : In this stage the patient becomes bloated, unhealthily fat and plethoric. "Fat, fatuous and fitty". The physical signs are quite pronounced and seizures may be more frequent. Anaemia is marked. Mentally he is much quieter and is childish in behaviour and speech. Excitement restlessness and the delusions have now subsided and he is more amenable to ward discipline and able to follow minor occupational therapy. The mental deterioration however is more marked, memory is more defective and the instincts are lost. Somnolence may be a marked symptom now.

The third stage is a combination of paralysis of the limbs and mind. He becomes bed-ridden owing to contractures and loss of power. Feeble and emaciated, wet and dirty due to loss of sphincter control. This leads to the formation of bed sores over pressure points or to the development of cystitis or pyelonephritis which usher in the fatal end. He has to be fed and nursed as a child, even tube fed when the power to swallow is lost. His mental state is one of complete dementia. He is oblivious of his surroundings and is incapable of the simplest expression of thought, except to smile inanely and babble feebly.

Prognosis: With the advance in recent years in the study of the pathology and new modes of treatment of this disease, the outlook from being grave formerly is now more favourable. The more severe forms however do not last more than three years. With early and intensive treatment a good percentage of cures are possible and even improvement maintained to prolong life to 10 years.

Treatment: This is best considered under two heads.

(a) **General:** As it is not easy to treat a patient in his home it is best to certify him to an institution. Having examined your patient **thoroughly**, regulate his diet according to the stage of his

disease. In the first two stages it must be regular wholesome, and nourishing and not too much. Mince and slops are necessary when he is bedridden. Keep the bowels well open easily. When there is restlessness agitation and excitement and insomnia, a few hours hydrotherapy is most beneficial with a sedative at bedtime. Remember the liability to convulsions, and to sustain injuries or fractures. A special attendant may be necessary to guard him against accidents. Regulate behaviour by correct habit formations, discipline and light occupation. Retention of urine must be correctly relieved and careful nursing to prevent the advent of bedsores.

(b) **Special** Antisypilitic treatment is indicated at the outset. The usual courses of Salvarsan or any of the allied arsenical preparations, combined with a course of mercurial or Bismuth injections though they may render the Wassermann reaction of the blood negative in time, are not efficacious in the long run, because they do not reach the seat of the mischief i.e., the central nervous system. I have found that improvement is surer and quicker when the brain and its meninges are attacked directly by giving intrathecal injections of Salvarsanised serum, according to the Swift Ellis method, which is as follows. The patient is given an ordinary dose of salvarsan or Neosalvarsan intravenously and after an hour, 40 c.c. of blood are withdrawn from a vein. Place the tube of blood in a cool place or on ice for 24 hours. 12 to 15 c.c. of the serum are drawn off and centrifugalised. This serum contains about 0.01 mg. of Salvarsan per c.c. Dilute it with sterile normal saline to make 30 c.c. and heat the mixture in a water bath to 56° C. for half an hour. Under a local anaesthetic do a lumbar puncture and remove 30 c.c. of cerebro-spinal Fluid and then slowly inject the serum. The patient must be kept in bed without a pillow, the foot of the bed being raised to 6 to 8 inches and kept

so for half an hour at least. The injections may be repeated once a month according to the reaction the patient's condition. Usually there is a sharp rise in temperature up to 102-3. F. in 3-4 hours, accompanied by severe headache rigor and vomiting. These symptoms subside in 24 hours. No treatment is required at this stage. A week later a fresh sample of cerebro-spinal fluid is sent for the Wassermann reaction. The injections should be repeated till a negative result is obtained and this usually takes 6 to 10 injections. On no account should a watery solution of Salvarsan be given intrathecally as it is too toxic and the result will be fatal. In recent years Malarial therapy has come to the forefront and is now used universally with a large measure of success. It can be combined with anti syphilitic treatment in the intervals but only selected patients who can withstand this vigorous mode of attack should be given it. The older method of allowing a patient to be bitten by infected mosquitos within a net, or from a test tube is not satisfactory, as it involves a deal of time, in waiting for the mosquitoes to bite, besides the patient may not cooperate. It is usual now to give an intramuscular injection of infected blood. The method followed at the Ranchi European Mental Hospital is as follows:— 1 c. c. of blood from the vein of a patient suffering from malaria either benign or malignant, but free from syphilis, is injected directly into the deltoid muscle of the patient. The number and variety of the parasites in the donors blood must be previously verified and if the infection is heavy $\frac{1}{2}$ c. c. of blood need only be given. The patient is then allowed to follow his daily routine of duties and may even undergo hydrotherapy in the meantime, till the onset of fever which appears exactly after an incubation period of 14 days. A week before the date of onset the pulse and temperature should be noted b.d. and the blood examined every other day or daily. With the onset of fever he

is admitted to the infirmary kept in bed and on fever diet, and his pulse and temperature noted four hourly. The bowels are kept open by mild aperients daily. The temperature usually rises to 102-104 F. and drops to normal by the next morning rising again the day after. If a mixed infection be present it rises daily in the afternoon and falls in the morning. According to the physical state of the patient, and the number of parasites in the blood, which must be examined daily, the patient is allowed to have between 6-10 rigors. No treatment is to be given except to check a rise above 104 F. by cold sponging or an ice cap.

When the malaria is to be checked, quinine, either the sulphate or hydrochloride, is given in 10 grain doses in a mixture by the mouth, for a week. If a more rapid check is indicated an intramuscular injection of 5 grains of quinine hydrochloride once daily for 3 days then followed by a quinine mixture gr. X. to one ounce t.d.s. for a week is all that is required. Intravenous injections are seldom required and are not free from danger. No further antimalarial treatment is necessary as patients acquire an immunity to malaria.

Malarial treatment is not free from danger and several fatal cases have been recorded but if carefully managed there is little risk. Elderly, fat, and feeble patients do not make good subjects. The treatment should be stopped immediately the following signs are present:—

- (1) if the patient appears pale, sallow and jaundiced, indicating severe destruction of red blood cells.
- (2) if the parasites in a field are very numerous.
- (3) if the patient is very weak and has diarrhoea in addition

(4) if the temperature does not rise above 100-101. F. though the infection of parasites is strong.

(5) if there is continual hyperpyrexia.

During the patients convalescence which takes a week or two, his strength is supported by nourishing food and tonics. Wagner-Jauregg of Vienna was the first to introduce malarial therapy in 1917. It was founded on the observation that an acute febrile illness in general paralysis is sometimes followed by remission. This is also true in the case of some of the other psychoses. The rationale of this treatment is far from clear.

The view held is that pyrexia by itself does not produce improvement, but the elaboration of antibodies which can attack the spirochetes, occurs as a response of the body to the malarial parasite.

Other substances like Coley's fluid, Koch's old tuberculin, antityphoid vaccine and nuclein preparations have been used but with much less success. Recently, sulphur in a suspension in olive oil (sulphosin) has been tried intramuscularly and the results are very favourable. It can be given either before or after malarial treatment. In addition to sharp pyrexia, sulfosin produces considerable leucocytosis, the average count being 20,000 white cells per c. mm. The recovery rate is approximately 46 per cent with malaria therapy. Both the physical and mental state shew marked improvement. Sulphur is recommended when the patient is too ill to stand malarial treatment or where there is no reaction to malarial treatment.

Tryparsamide may be substituted for Salvarsan and some observers report it is more Spirocheticidal and efficacious. Drainage of as much cerebrospinal fluid as possible an hour or two after an intravenous injection of salvarsan has also been tried,

with the object that fresh fluid containing salvarsan will be formed, but the method is not so successful as the intrathecal injections by the Swift-Ellis method. More recently pyrexia by Diathermy has been tried. It is claimed that 40% of remissions occur and it is much safer than the injection of foreign proteins or parasites into an already diseased system.



CHAPTER IX.

Epilepsy.

Epilepsy is an age old, yet ever new and common morbid clinical state and is one of, if not the greatest problem in medical science. Though Hughlings Jackson, whose name in connection with epilepsy will remain immortal, described it as "a disease characterised by occasional sudden, excessive, rapid, local discharges of cortical grey matter", the more modern view is that epilepsy is not a 'disease' but a symptom, a phenomenon of a state the cause of which are many.

Wilson states, "the truth is the condition defeats us on many grounds, its etiology is heterogenous, its semeiology, indeterminate, its pathology dubious, its pathogenesis conjectural and its therapeutics empirical". The approach to this vast and complex subject therefore is by no means easy, for not only are we to consider the motor fits, but its numerous variants and the pre- and post-seizure states which are all part of the same condition. The simplest definition of epilepsy would be; "a chronic paroxysmal affection characterised by sudden attacks of partial or complete unconsciousness, with or without convulsions and often by a tendency to mental deterioration."

Attacks without convulsions are known as minor fits (petit mal) and those with convulsions as major fits (grand mal). Although true or idiopathic epilepsy is defined as a cerebral disease without any demonstratable structural lesions in the brain, it is nevertheless a symptom which manifests itself in certain conditions. Before considering these states a review of the modern theories on the causation of epilepsy will be necessary.

(1) **Toxic Theories** : Laboratory experiments as well as clinical observation have shown that the introduction or accumulation

of poisons in the system are productive of fits. Experimentally, the injection of drugs like monobromide of camphor or absinthe produces typical seizures. Clinically the best examples of toxic action are uraemia, eclampsia and diabetes. When the maximum amount of the toxins has been reached the fits occur and is an attempt on the part of the system to expel it via the urine, which, after a fit, is usually highly toxic. The injection of the blood or serum from an epileptic patient into an animal will reproduce the fits. The nature of the toxic substances is unknown. No matter where the toxins are formed the central nervous system on which it reacts is highly sensitive to their presence.

Muskens considers that the epileptic seizure is a reflex phenomenon similar to "other reflex phenomenon with a physiological basis, such as inflammation, pyrexia, cold shivering or rigors. The epileptic fit is called into operation by some special chemical combination against which the central nervous system must protect itself at all costs".

(2) **Inheritance and cortical instability.** It is commonly believed that epileptics are unstable and more prone to convulsions on the slightest cause because it has been inherited.

Modern research in this direction has proved that direct inheritance is a negligible factor in comparison with other inducing causes. Thom, working at the Massachusetts hospital for epileptics, found only 1.8 per cent had a direct history of epilepsy, while Pilez found 1.2 per cent due to inheritance in a group of 144 epileptic mothers who had 161 children. Muskens places the heredity factor at 33 per cent while British neurologists find heredity in only 20%.

(3) **Vascular theories.** According to these, functional or mechanical constriction of the blood supply to the brain causes

local anaemia and asphyxia of the cortical neurones leading to interference with the function of inhibition, and the fit results. Epilepsy may be a vasomotor neurosis allied to migraine, Raynaud's disease, Stokes-Adams syndrome and other vascular disturbances. Even this theory is fallacious for we do not know the cause of the anaemia nor whether the constriction arises in the vasomotor centres of the bulb or locally in the cerebral cortex or distally. On the other hand many local cerebral anaemias are unaccompanied by cortical discharges. Wilson considers that a neutral factor determines the vasomotor change and therefore vasomotor constriction though important is not the per se cause of a fit. On the other hand Rosett considers that "any condition whatever that will disturb the chemical, physical or mechanical balance of the nervous system may result in a facilitation of the normal process of cerebral inhibition with the appearance of epileptic seizures as a result". From the psychoanalytic standpoint Pierce Clark considers that the epileptic fit is reproduction of the sexual orgasm.

Etiology—Since it is impossible to find one single common factor responsible for epilepsy except that it is a neuronie derangement of neuronie derivation, a consideration, of the following factors in which epilepsy is associated will show how heterogeneous is its etiology.

1. Humoral factors.

Mechanical :—

1. Increased intracranial pressure.
2. Increased permeability of tissues.
3. Alteration of water balance, oedema.
4. Ligation of carotids and vertebrals.

Exogenous:—

1. Convulsants, alcohol, absinthe, Camphor, Thujone etc.
2. Insulin hypoglycaemia.
3. Foreign proteins.
4. Anoxaemia.
5. Alkalosis, alteration of acid base balance.

Endogenous:—

Disorder of the endocrines, parathyroid, thyroid, pituitary.

II—Organic cerebral states.

1. Cerebral tumours,
2. Cerebral infections, encephalitis, syphilis, tuberculosis, abscess, toxins of fevers.
3. Cerebral degenerations, disseminated sclerosis, Alzheimer's disease, diffuse sclerosis.
4. Cerebral trauma.

III—Humoral and vascular cerebral states.

1. Disease of the blood vessels (Thrombosis, embolism, aneurysm, haemorrhage, endarteritis).

2. Disorder of cerebral circulation, anaemia, heart-block, asphyxia.

3. Disorder of cerebro spinal fluid regulation, Hydrocephalus, internal or external, alterations in pressure etc.

Although it is true that the onset of severe fevers and exanthems in children commences often with convulsions, it is strange that epileptics who contract a severe illness like typhoid, small pox, pneumonia, chicken pox and even gout, often show a striking

cessation of fits. Again the late Dr. Collier held that it is usual for the epileptic woman to have complete immunity from the attacks during pregnancy and this occurs not only in idiopathic epilepsy but also in epilepsy due to local brain disease. He argues strongly in favour of a metabolic dyscrasia as the essential cause of epilepsy. Status epilepticus is only explicable on the grounds of an acute autotoxic process, and the aberrant mental functioning of habitual epileptics was in his opinion an expression of the same metabolic errors. In this connection numerous research workers have found a low blood cholesterol just prior to and after the fit, and at the menstrual period when fits are more frequent in women the blood cholesterol is low. Some psychiatrists of the psychoanalytic school hold that epilepsy is a psychological condition at least primarily and is due to an inbinding of narcissistic libido and as the tension accumulates or increases there is ultimately a release in the form of violent motor activity and unconsciousness, when the epileptic fails to make satisfying adaptations to reality. The general view is that though psychisms or psychic variants are often met with, essential epilepsy is not of psychogenic origin. Lastly, just as in hysteria, it is highly probable that a sudden emotional crisis such as a fit of temper or strong excitement may in an epileptic precipitate a fit. One patient of the Ranchi European Mental Hospital who attended the weekly social and dance invariably had a fit afterwards. A female epileptic who used to take part in minor theatricals and tableaux could not be depended on as she generally had a fit before her turn. Some patients learn to ward off an impending fit by violent muscular exercise. A fellow school boy of mine who was subject to fits, had his oncoming fit prevented by other boys jumping on him and boxing his head as soon as he gave the warning epileptic cry.

Clinical picture.

Although in the majority of cases a major fit occurs with alarming suddenness the whole event may be divided into three stages—(a) Premonitory (b) Convulsive (c) Post convulsive.

Premonitory stage: Patients who have been subject to fits for some time usually show some change in behaviour such as restlessness irritability and depression. Headache and vague pains and insomnia may be complained of and they may be emotional or morose and aggressive if interfered with. A small proportion become erotic. Immediately preceeding the fit there occur in most cases sensory disturbances or *aurae* by which the patient is usually warned of an impending attack. Any sense may be affected. Visual, auditory and epigastric *aurae* are the commonest and are of brief duration. In some cases at the onset of the *aura* the patient prepares himself for the fit.

Some fall suddenly with a groan or peircing shriek and lose consciousness.

Convulsions—Major epilepsy—Gand mal.

(a) Tonic stage—As soon as the patient falls the head and eyes are turned to the side on which the convulsions are stronger. The whole body is held rigid, the hands and jaw clenched, the muscles of the chest contracted as a result of which he becomes livid. The pupils are dilated and the conjunctival and deep reflexes are lost. After about twenty or thirty seconds he passes into the—

(b) Clonic stage—Practically all the muscles of the body become convulsed. The range of the jerks depend on the severity of the fit, the face becomes contorted, the tongue often bitten through being protruded between the teeth. Froth appears at the mouth and may be blood stained. The head, hands, and feet are jerked violently and the patient may pass urine or faeces involunt-

arily. The convulsions gradually diminish and the breathing becomes easier after which the patient lies inert. Consciousness may be regained soon after, usually they are comatose and pass into a natural sleep from which they awake exhausted. When roused out of his sleep a kind of "crepuscular condition" may develop in which he moves and acts automatically. There is complete amnesia for the time of the attack and in some cases a period proceeding it. In rare cases the fit is followed by motor weakness, mono or hemiparesis or by aphasia and stuttering.

A few patients are sometimes able to resist an attack by a strong effort of will to remain conscious and in rare cases where the aura begins as a paraesthesia or twitching in the extremity of the limb, the attack may be prevented by gripping or ligating, the part above the site of aura.

Minor epilepsy (*Petit mal*). In this form the patient is suddenly seized with unconsciousness, the eyes become fixed or speech momentarily lost but there are no convulsions. It may be so brief and slight as not to be noticed by others than the patient who sometimes describes it as a faint or a sensation. The neural mechanism of both the major and minor fit is the same but the degree of cortical discharge varies. In the minor form the association areas are more involved and the mental deterioration that follows is greater in *petit* than *grand mal*.

Post convulsive states: These manifestations are the resultant disturbances of the fit or even substitutes for the ordinary fit. They may be mild or severe, transient or prolonged and vary from sleep to fugues, from stupor to excitement or furor. Amnesia for the events of the attack is usual and these states may also be found in hysteria. They are of great medico-legal importance as during this stage for which there is genuine amnesia,

crime and violence may be committed of which the patient has no knowledge. Immediately after a fit sleep usually follows. It is indistinguishable from ordinary natural sleep and may last a few minutes or hours. Coma however results after a series of fits as in status epilepticus.

Automatism is a peculiar state of dissociation or "double consciousness" which occurs after a fit, mainly petit mal in which the patient may perform some coordinated purposive action of an unusual nature. It may last for a few minutes, up to in more severe forms, a few weeks. Whatever action had been started before the fit may be carried on unconsciously. A mother who was cutting bread, has been known after a fit to cut the throat of her child who was sitting by her side.

A soldier on sentry duty walked away to the bazaar, shot a man and calmly returned to sleep in the guard room. This condition is comparable to what occurs in somnambulism, except that in the latter the patient is in a sleeping state. A "Fugue" is a prolonged state of double consciousness in which the patient wanders over long distances, behaves rationally the while and adapts himself to his surroundings, when he suddenly remembers he is among strangers in a strange place and cannot account how he arrived or what he did. This may also occur in hysteria and must be distinguished from simulated cases who attempt to avoid the law. Epileptic Furor is a state of acute excitement like acute mania, during which the patient may suddenly assault violently any one near by. Many a brutal murder is the work of an epileptic.

Stupor, similar to that of dementia praecox sometimes follows a fit. Confusion is marked, he is depressed and apathetic and resents strongly any interference. The diagnosis of these states is simplified by a history of fits.

Mental Deterioration.

Dementia is the end result of epilepsy after several years of frequent fits. It is not the severity or frequency of the fits that produces the deterioration but the mental failure is determined by a factor which is related to the ultimate cause of the disease. Epilepsy does produce an alteration in the general personality though in practice it will be found that many patients subject to fits for years are apparently normal and able to carry on their occupations.

Epileptics in general however do possess what is known as the "Epileptic character". They are irritable in their homes impetuous, suspicious and moody, easily roused into anger when thwarted or on the slightest provocation. Some are hypochondriacal and some show little interest in or affection for relatives. Hence he is strongly egoistic, self-conscious and conceited, and incapable of developing altruistic or moral sentiments. Some display a keen interest in religion and ritual and such are highly emotional. Others are highly sexual and perverted due to a lack of inhibition and soon get into trouble. In children epilepsy leaves a firm mark of mental deficiency. Their backwardness is both mental and physical. Speech defects are common, hemiplegia, diplegia or other symptoms of local or generalised cerebral disease are also associated. Those with gross cerebral lesions often escape severe mental defect, but are precocious though backward in school. Some faculty or skill may be overdeveloped, often their precocity is in the direction of mischief and crime. On the whole about 15 per cent of epileptics become insane and require certification.

Epilepsy and Crime.

The statistics on crime due to epilepsy shows a marked divergence. In America, Healy found it as high as 7.5 per cent

while Norwood East in England estimates only 0.5 per cent. In India we have no available figures on this subject except that epileptic insanes form about 4 per cent of the total insane population. The connection between epilepsy and delinquency has long been noted. Lombroso's view that the criminal is essentially an epileptic no longer holds. The loss of memory present in essential epilepsy or its equivalents is genuine and it is no easy task to convince a court of the reality of this amnesia. A history of fits or of a recent fit or other epileptic manifestations, an outbreak of sudden, perhaps of apparently motiveless violence which is excessive and brutal with little or no attempt at concealment are evidence in favour of an offender. The epileptic character like that of many delinquents is essentially childish. He is egoistic, self assertive, impulsive and irritable and with the general and gradual mental deterioration there occurs a deficiency of the moral sense. Medical evidence may be insufficient to disprove responsibility but it can show that the act was committed while in an abnormal state of mind.

Treatment: No condition has baffled medical science more to find specific cure as has epilepsy and it is not to be wondered at, when we consider how indeterminate is its etiology that the treatment is to-day largely empirical. Still there are ways and means of combating the progress of this distressing state.

The treatment of the actual fit consists primarily in preventing further injury to the patient. The convulsions cannot be stopped but the patient can be prevented from hurting himself, by removing any furniture near by. Loosen his collar, coat, and belt, place a hard object between his teeth to act as a gag, to prevent him biting his tongue. A glass of cold water dashed over his face will help to revive him or at least make him respire easily. After the fit he should be allowed to rest in bed for the day. Some

patients recover rapidly and have no after effects. If the fits are nocturnal a hard pillow should be provided to prevent suffocation and possibly death during the fit. Epileptics in hospital are best provided with a low bedstead. In the status epilepticus the fits may be checked by inhalations of chloroform or by bromide in doses of 40-60 grains or chloral hydras grs. xv given per rectum, after an enema, but these are depressant and do more harm than good. Paraldehyde however being a stimulant as well as a powerful agent in checking convulsions is of signal value. It can be given in large doses up to eight drachms without ill effects. It is readily absorbed per rectum. The effects are magical in cases that are even apparently moribund. Blood letting as well as spinal drainage will cut short the number of fits. For the actual prevention of the fit there is no known specific. Although many drugs like the bromides and the barbituric acid group, luminal etc. are the sheet anchor in the treatment, they are not specific, but only help to reduce the number of fits by their depressent action and play no part in attacking the cause of the fits. These drugs have to be used over a considerable period, if not years, and they seem to aid rather than prevent the ultimate mental deterioration. The triple bromide mixture of sodium, potassium and ammonium bromide grs. xv each, to an ounce may be tried first. If the Bromides fail, sodium luminal in doses of $\frac{1}{2}$ a grain up to two grains B. D. may be useful. Some cases are benefited by borax (5 to 20 grs.) given alone or in addition to the bromides.

The only remedies which influence epilepsy are zinc salts (zinc lactate $\frac{1}{2}$ to 3 grs.) and Belladonna.

There are a few rare cases in which they are useful, especially when all else has failed.

For nocturnal epilepsy a single dose of the remedy chosen, should be given at bed time and, for fits that occur both day and

night it should be given both morning and night. Since epilepsy is considered to be a metabolic dyscrasia attempts have been made to attack it by correction of disordered metabolism. Talbot of Massachussets has had 40 per cent of complete recovery in epileptic children whom he put on a special Ketogenic diet. Ketosis is produced by fasting and the use of a special diet which is salt free. It tends to shift the acid base balance of the blood towards the acid side but the actual mechanism in preventing the fit is not clear. Another method that has also had some success is dehydration by limiting the fluid intake and drainage of the cerebro-spinal fluid as much as possible. More recently another metabolic manoeuvre has been tried namely the elimination of the pellagra preventive factor from the diet. When pellagra symptoms appeared they were checked by giving yeast. By this method 50 per cent of cures have been claimed. Malarial therapy has also been tried with success in some cases. Whatever plan of attack is to be followed it must be remembered that the general care and regulation of the life of the epileptic is also important. There can be no doubt that the less the life of an epileptic person departs from that of a normal person the better will be the result of medicinal treatment and the more hopeful the outlook in the end. In every case of epilepsy where it is possible, education occupation and recreation should continue without restriction. To isolate him at home is to cramp his mental health. In feeble minded persons institutional treatment is indicated and where mental deterioration is such that the patient needs care and control certification will be necessary. Lastly let it not be forgotten that quite a number of patients who have managed to preserve their mental state in spite of long continued fits can be benefitted to an appreciable extent and even cured by submitting to psychotherapy on psycho analytical lines.

CHAPTER X.

Cerebral Tumours.

Although Neoplasms of the brain cause gross disturbances it is unusual if not rare to find psychic alterations as a result. As noted under amentia however, gross brain lesions in the embryo or infant produce idiocy and imbecility. In the adult, especially in mental hospitals, a tumour may be diagnosed only post mortem. It is therefore erroneous to state that a tumour causes a psychosis; still mental changes do occur in a small proportion of cases and it is difficult to say in given cases of tumour if mental symptoms will follow, or if any particular variety of tumour or its site will produce any particular mental alteration. The mental changes may be divided into (a) general (b) specific.

(a) The general symptoms are (1) Loss of attention and memory. Minor events of recent origin are easily forgotten, the attention is wandering.

(2) Impairment of insight, judgement and concentration. The higher and more lately acquired faculties are the first to go.

(3) Loss of interest: The mental horizon is restricted, he becomes apathetic, callous and indifferent about himself and his affairs. He may even become moody depressed or anxious.

(b) Specific-symptoms.

(1) Euphoria - Some cases express a sense of well being and tend to be jovial and jocular at the wrong moment. Patients who turn everything said or done to them into a joke not in keeping with their serious state or usual manner should be suspected of having a neoplasm.

(2) Catatonia and waxy flexibility. In some cases schizophrenic symptoms may be observed and it is doubtful if these are of psychogenic or physiogenic origin. Kinnier Wilson suggests

that in such cases the tumour is usually in front of the central Rolandic) fissure.

(3) Agnosia or imperception—is diminution of perception or failure to recognise an object. It occurs in cases where a tumour is situated behind the central fissure and is also seen in cerebral arteriopathy.

(4) Disorientation in space and time occurs in the latter stages. According to Pierre Marie it is a characteristic of frontal tumours.

(5) Hallucinations occur when a tumour is in the vicinity of a special sense organ or its appropriate cortical field. In tumours of the uncinate region of the temporal lobe gustatory or olfactory hallucinations are common. Visual hallucinations result from parieto-occipital tumours; whilst auditory are caused by temporal tumours. Similarly disorders of speech result from a growth in the speech center (Broca's) in the left temporo-parietal region in right handed persons.

The diagnosis of a tumour in a mental patient is often not easy and may be overlooked and may not be made till pressure symptoms as coma, convulsions or paresis appear. The classical symptoms of headache and vomiting and optic neuritis are often absent.

Treatment is unsatisfactory: Even when expert surgical aid is called in. Pressure symptoms call for relief but a good measure of improvement results in the administration of iodides.

Encephalitis.

Inflammatory conditions of the brain whether diffuse, haemorrhagic or suppurative are not usually associated with mental disease. The suppurative form (abscess of the brain) may however arise in the course of any psychosis as a result of infection from the middle ear, pyaemia, septic pneumonia, fracture or disease of

the cranial bones. On recovery however there may be traces of mental enfeeblement. Symptoms of a maniacal kind may be associated with a cerebral abscess—an important symptom here is a subnormal temperature.

Encephalitis Lethargica.

Popularly known as "sleepy sickness", Encephalitis Lethargica occurs in epidemic form, is an acute contagious disease, the virus of which attacks mainly the grey matter of the brain. Von Economo of Vienna was the first to draw attention to this disease in 1917. Owing to the peculiar mental changes produced the disease is of interest to both physician and jurist. Sporadic cases may also occur.

Etiology—No class is immune but the poor are more affected than the well-to-do. It attacks individuals chiefly during childhood, adolescence and involution. It is not met with in old age. The virus which is found in the brain, cerebro-spinal fluid, saliva and nasal secretions is filterable. No specific organism has been isolated so far. It is spread by means of carriers and the nasal passages are the route of entry. 10 to 24 days are reckoned to be the incubation period.

Symptoms—Physical—The onset is with headache-malaise, coryza and fever, and hence is usually mistaken for influenza. Diplopia often ensues and the patient complains of inability to read. The acute febrile stage lasts a week. There may be motor weakness of isolated groups of muscles. The neurological sequelae however are more striking. Perhaps weeks after the acute stage the patient develops the typical Parkinsonian Syndrome. The body is held rigid, arms and legs are stiff at the joints, the gait is shuffling and unsteady. The feet are dragged along the floor and there are coarse tremors in the hands. The tongue and facial muscles when put into action, also tremble. The face assumes a

blank mask-like expression and the eyes are listless and staring, and salivation is also marked and the patient may dribble, constantly. Lachrymation is also present owing to quivering and defective closure of the lids. In 78% of cases the external ocular muscles are affected, ptosis in 50%, nystagmus and diplopia in about 18%. Another interesting sequela in chronic encephalitis is the so called oculoogyric crises or ocular fixation attacks; which occur in about 17% of cases. It consists of a sudden spasmodic conjugate movement of the eyes upwards and slightly to one or other side, lasting from a minute to many hours. The patient is conscious of the condition which is distressing. In a few cases the movement is downwards, rarely laterally. The eyes become fixed and cannot be got back to their proper position. With conscious effort the eyes can be made to return to their normal position but soon they again rotate. Strong suggestions can in some cases ward off an attack. The attacks often follow some strong emotion. Rotation or the upward position of the eye in normal sleep was described a century ago by Sir Charles Bell, but in oculoogyric attacks, though the lids are open, eyes assume the position in normal sleep, but strangest of all not only does an attack end in sleep but sleep ends the attack. In a few cases only the attack does not end in sleep.

Mental symptoms, can be of the widest variety ranging from the mildest to the most severe of all types. They are best discussed under two heads. (1) In the early stages (2) the later stages Toxaemia is the main factor in the early stages whilst organic changes are operative in the later. Symptoms in the early stages can be divided into two types (a) the lethargic and (b) the delirious.

(a) **The lethargic type** is marked with sleepiness confusion and mental hebetude. The patient is dazed apathetic and slow to

react to any stimuli. The sleep rhythm is inverted, that is, he sleeps excessively by day and wakeful at night, restless, even noisy and excited.

(b) In the **delirious type** the clinical picture closely resembles delirium tremens. Mental and physical restlessness like manic excitement, hallucinations and some confusion are most prominent. The maniacal symptoms lack the rapid emotional variations and flight of ideas of true mania. On the other hand there may be agitated depression with strong suicidal impulses resembling melancholia proper. The main difference from the manic depressive psychosis is that insight is more preserved in encephalitis. Some cases present polyneuritis and delusions as in Korsakow's syndrome. These symptoms tend to diminish in time but the lethargy is protracted. Since in some cases lethargy is prominent and in others excitement and insomnia, it would appear that a definite lesion rather than a toxæmia is the basis of the disorder.

Symptoms in the later stages. There is usually an interval of three or more years between the early and late stages and during this period the patient may be apparently well. Patients usually complain of loss of memory and mental fatigue but this is due more to their anxiety about their state. At times lethargy gives place to sudden physical and mental energy especially when emotionally stimulated. Catatonic symptoms of dementia præcox may be simulated.

Intellectual deterioration rarely appears among adults but among children is a frequent and serious symptom. The most striking change in the mental state of children and young persons is the sudden and complete change in character and temper. The previously model, respectable child suddenly becomes mischievous, idle, immoral, untruthful, and stealthy. He resembles the "moral imbecile" in many ways and may even attempt murder, and yet

may come from the best of families or schools. The term "apache" is now used to describe these delinquents who present a problem both to the home and the state for most of them fall into the arms of the law and swell the admissions to mental hospitals, prisons and reformatories.

Diagnosis—A very careful case-taking is called for : absence of psychotic history, and stigmata of degeneration is helpful. A careful neurological examination must be done to exclude tumour or abscess. The W. R. must also exclude syphilis. Epileptic convulsions may occur and confuse it with true epilepsy. The history of low fever, inverted sleep rhythm, transient cranial nerve palsies and the Parkinsonian syndrome are strong evidence in favour of Lethargic Encephalitis.

Pathology—The cerebro spinal fluid is in excess but otherwise normal. Lowell found that the globulin reaction is positive and the sugar content is raised. The cerebral ventricles are dilated. In several cases Lowell found a round celled infiltration and degeneration of the pancreas due to fibrosis. He found the same conditions in cases of agitated, melancholia and anxiety states ; suggesting a connection between anxiety and vasomotor disturbance, the result of pancreatitis. Microscopically the vessels of the brain are dilated and thrombosed, there is round celled infiltration and extravasation of white and red cells round a ruptured capillary. Macroscopically the brain shows extravasation of blood under the pia. On section the substance is tinted pink, revealing dilated vessels and minute haemorrhages in the cortex and basal ganglia.

Treatment—In the early stages rest in bed and careful nursing is called for. Mental excitement will call for institutional care i. e. certification, but should be avoided at all costs till the later

stage of chronic mental deterioration. For the Parkinsonian symptoms, rigidity, salivation etc. injections of Hyoscine 1/100-1/50 gr. daily were found useful when given with a course of dried extract of stramonium. There is no specific cure.



CHAPTER XI

Psychosis with somatic disease.

"*Mens sana in corpore sano*" is a truism that is not often realised or remembered. Mind and body cannot be separated as two parts functioning independently, the state of one effects the state of the other and just as in mental disease the somatic state suffers, so every bodily ailment has its mental repercussion in some degree or other.

Adler holds that there is undoubtedly a correlation between disturbances of visceral function and certain emotional or psychological states. These visceral states which result from an emotional or psychic base he calls, "Organ Jargon" and corresponds to Freud's "somatic resonance" or "Rejoinder". The earliest physicians thought that melancholia or depression was due to "Black bile". So too we retain to-day such phrases in daily use as 'a maddening headache' 'gnawing at the vitals' 'close fisted' 'large hearted' 'splenetic' etc. because they correspond in some way or other to objectivity. When a viscus is in a state of inferiority it is picked out by the organism to symbolically express in disease a specific emotional or psychological reaction. It is not for nothing that poets have written of the 'itching palm' or the hyperaemia and tachycardia of 'Love's speech'.

Certain physical diseases are usually accompanied by a more noticeable mental change than others. In such physical diseases the mental change is presumably due to an interference with the nutrition of the brain or to the action on the brain of the poisons or toxins of the disease. The clinical pictures met with are extremely varied but the prevailing emotional tone is anxiety and depression.

Respiratory.

1. **Tuberculosis** and insanity go hand in hand; very often children with a tubercular inheritance may later become insane. Many a patient in mental hospitals contracts tuberculosis, though nowadays it is much rarer. There is no particular psychosis that follows in the wake of phthisis, but melancholia is the most usual picture. In the early stages of the disease the patient is buoyed with hope and optimistic of the future (*Spes Phthisica*) but, later on, gives way to depression and to suicidal tendencies. Delusions of persecution and of poisoning may appear and with this, refusal of food. Hallucinations of hearing, usually abusive or of the accusatory sort, are also complained of. The course and progress is that of the physical state of the diseased lungs. It is interesting to note however that in Sanatoria those patients who pay no attention to their physical state and are bright, cheerful, industrious, active, social and genial appear to recover from phthisis quicker and oftener than those who are otherwise. Crookshanks holds that phthisis has its true correlative in discouragement, whether in respect of physical, social, sexual, emotional or intellectual life.

Persons of all types of mental make up are liable to fall victims to tubercle yet it does appear that the incidence is large among men and women of outstanding intelligence and of genius. There can be no doubt that a severe psychic trauma can lead to an invasion by tubercle or other organisms by lowering the bodily resistance and the increase of tuberculosis during the war was attributed by the late Dr. Arthur Latham to the increased strain and stress that men were constantly exposed and not to a greater infectivity. It is curious however that the shock of a sudden onset in the first symptom of a severe haemoptysis leads oftener to a steady progress towards recovery than does the onset that is slow and insidious.

The all-pervading emotion in tuberculosis, as in the War neuroses, is anxiety and the fear of death. Though specific remedies are useful adjuvants in raising the resistance in tuberculosis, it is more important to treat the patient rather than the disease. Patients who possess courage, faith, ability to form new interests and adapt themselves to new environments are more often cured than those who have not. If physicians could learn to influence the minds of their patients to help them face their state in a proper perspective, the road to recovery would be shorter and brighter.

(2) **Asthma**—Similarly in this condition a neurotic element is present in most cases. An asthmatic subject is easily exposed to an attack under some strong emotional disturbance, especially of a sexual nature. Adler drew attention to the connection between asthma, financial stringency, and avarice; we sometimes adjure the stingy person to "cough it up". The miser, in literature, is described as "wheezing" when counting his gold, because his chest is as tight as his soul. An old lady suffering from manic depression as well as asthma was often relieved of her wheezing attacks when I gave her a little money! When asthma was present the mental symptoms subsided and vice versa.

(3) **Cardio-Vascular Diseases.**

Every cardiac affection is invested with a large element of anxiety, especially of impending death. All text books on medicine describe Angina Pectoris in association with the fear of impending death. The classical story of John Hunter's death after a fit of rage is an excellent example of organ-jargon.

Every case of cardiac arrhythmia not due to valvular or mural trouble calls for psychological investigation. In neurasthenia it is a frequent symptom.

In Melancholia, raised blood pressure is found, not due so much to sudden fear or grief but prolonged painful and unrelieved responsibility.

In mania and in katatonia the blood pressure is low, for here is a state of euphoria and self-contentment. When compensation is failing, agitation, fear and insomnia may be predominant.

(4) **Abdominal Diseases.**

The daily advertisements we read, of aperients as stimulants to good health and spirits, and "that Kruschen feeling" etc. are examples of the mental tranquility being dependent on abdominal states. Any abdominal complaint leads to depression, irritability, gloomy introspection and hypochondria. It is a well-known saying that persons who are habitually constipated or suffer from piles are very irascible. Similarly, the psychoanalytical equation of money is faeces, hence we speak of a miserly person being "constipated" or "stinking of money" or "filthy lucre", etc. The frequent allusion made by the Psalmists and the Prophets to the working of emotion states and bowel states reveals the acutest powers of observation. Intestinal toxæmia can conduce to mental disorder. Constipation is the rule in mania and melancholia. In hysteria and the minor psychosis the abdominal organs are often invested with undue interest by the patient who converts his mental disturbance into an intestinal one. Anorexia nervosa, mucous colitis, and hyperemesis gravidarum are essentially psychic in origin, toxins notwithstanding. In such cases a psychological investigation of the cause and readjustment of the underlying conflict will be found to be far more beneficial than can ever be expected from bismuth, lavage or Spa waters.

(5) **Diabetes**

Diabetes has long been known to be associated with a neurotic diathesis. It is common among bankers, Jews and Parsees and

those who undergo financial strain or responsibility. It is not uncommon to find a history of insanity in a diabetic family. There is no special form of psychosis that follows glycosuria. In confirmed diabetics the mode of onset of mental derangement is an increasing irritability, agitation and depression which may lead to suicidal tendencies. In the most advanced stages of acidosis, symptoms of acute confusion may develop.

Prognosis—Mental disturbance in diabetics over forty years of age is more readily curable than in younger persons.

Treatment—Having ascertained the true origin of the glycosuria, whether pancreatic, endocrine, renal or purely nervous, it should be eliminated as soon as possible either by insulin, dietetic or starvation methods. There is no special treatment for the mental derangement, apart from allaying anxiety depression and prevention of suicide. Certification may be necessary for the proper attention to both the physical and mental state.

(6) Pelvic Disorder.

In women, disease or disfunction of the pelvic or reproductive organs is frequently associated with insanity. Acute gonorrhoea in a young girl as well as the disgrace attending unmarried motherhood is apt to precipitate a breakdown. Mania, melancholia or dementia paranoia is the usual form taken. Fibroids may form a basis for delusions of pregnancy. It is common to find in hospital patients alterations in temperament during or just prior to the menstrual flow. It should be remembered that the uterus has nothing to do with hysteria.

(7) Febrile States.

Hyperpyrexia by itself, apart from producing delirium, does not produce mental disorder, but the toxins of the particular disease as Malaria, Typhus etc. lead to mental enfeeblement in the

young and to derangement in adults. Acute excitement with auditory hallucinations may be present, including restlessness and insomnia. During convalescence there may be depression and irritability and the speech and behaviour puerile. The prognosis is usually good in adults but in young children the stamp of feeble mindedness may be left. Heat stroke may similarly produce chronic nerve exhaustion or what has recently been termed "Tropical Neurasthenia". It may also stimulate latent dementia paralytica.

(8) Leprosy.

The mental state of a person who is unfortunate to contract leprosy is at the onset one of despondency and despair as he feels he is an outcaste and an "untouchable". His brooding soon adjusts itself in stoical resignation, but in those with a neurotic temperament or other added stress or psychic trauma, symptoms of acute confusional insanity or manic depression may be soon manifest. Remissions may occur from time to time but on the whole the prognosis is not good.

(9) Chorea.

Although chorea is most common in childhood, mental complications are more usual in adults.

In addition to the usual symptoms of chorea the mental state of a child is usually that of a moron or imbecile. In the adult, insanity following chorea, the so-called 'chorea insaniens' may take the form of acute mania or melancholia.

There is a general mental confusion and hebetude which may develop into stupor which is usually chronic. The mental faculties gradually deteriorate into dementia. The prognosis of the manic depressive forms of choreaic insanity is favourable.

The treatment is mainly symptomatic. Rest and nourishing foods are as important as tonics in the form of arsenic, iron and

sedatives. Chloral or small doses of hyoscine are valuable for the insomnia and restlessness. Often with the onset of insanity the choreiform movements disappear. Recently malaria therapy has been tried with very encouraging results.

Psychosis associated with Endocrine Disease

Diseases of the Thyroid Gland.

Congenital defect of this gland is the cause of cretinism which is already described under amentia. Mental disturbance may also arise as a result of excess or deficient activity of the gland.

Hyperthyroidism—The thyroid hormone affects not only the basal metabolic rate but also the sympathetic system which is activated. The direct result of the sympathetic excitation is cardiac acceleration, mobilisation of glycogen, increased coagulability of the blood and conductivity of the skin, adrenalinaemia and intestinal, capillary, and sudorific disturbances.

The mental state is one of increased emotionalism, restlessness and anxiety. Fits of temper are common on slight grounds, and are followed by depression. Sleep is deficient and troubled by anxiety dreams. These are best seen in a case of exophthalmic goitre. Here anxiety and fear are the main features. The patient is apprehensive and irritable. In addition to the physical signs of tremor, tachycardia, exophthalmos, and enlarged thyroid, motor restlessness may be most pronounced. In some cases acute mania follows, death may be sudden and occur from exhaustion and toxæmia. Melancholia and paranoid states may also occur.

Prognosis—In uncomplicated cases it is not unfavourable. When the mental excitement is severe or there is much emacia.

tion, vomiting or diarrhoea the outlook is more grave. Some cases may die within a few months whilst others live for years and finally recover. Mortality is about 25 per cent.

Treatment—Absolute rest in bed is imperative from the start. Investigate and eliminate any source of intoxication. Dietetic treatment is important. Reduce the protein element to a minimum. Eliminate meat and supply bread, milk and eggs and as little fish as possible. Cheese must be forbidden as it produces tryptophane, an element of the internal secretion of the thyroid. Milk must be boiled and only small quantities given. Medically, some patients are improved by iodine as potassium Iodide 3 grains in 24 hours, whilst others are made worse. The patient must be watched carefully and the iodine stopped as soon symptoms are aggravated or unchanged. Sedatives as Chloral or Amylene Hydrate are indicated, for excitement and insomnia X-Ray treatment may also be beneficial. The basal metabolic rate must be done frequently and as soon as it is normal, treatment must be suspended and meat may cautiously be introduced into the diet. Tincture of Hyoscyamus in 30 minim doses t. d. s. is also very beneficial.

Hypothyroidism.

A deficient supply of secretion, like excess, produces some degree of mental disturbance. In the infant cretinism is the result and in the adult myxoedema.

Mental symptoms—The most noticeable is a general depression of mental activity. Slowness of apprehension induces much mental effort to comprehend even simple propositions, but there is no confusion. As a result of mental exertion there appears mental exhaustion, inability to concentrate and the memory becomes defective. The patient is somnolent but sleep

may be impaired. Abulia is also marked. Hallucinations may be present with phases of confusion and excitement but delusions are not present. In the absence of treatment dementia will certainly result.

In no disease is the effect of treatment as dramatic and pronounced as in myxoedema on both the physical and mental sides. Increasing doses of thyroid extract should be given and may have to be kept up for several months. As to diet, the protein content should be gradually increased. He should be allowed to remain free from small anxieties and worries and nothing done that will exhaust him. The return to normal glandular activity will show itself in increased energy and interest by the patient.

Diseases of the Pituitary.

In both atrophy and hypertrophy of the anterior portion of the gland there are mental and physical changes.

Atrophy produces Frohlich's Syndrome. Male subjects assume a feminine type of body, there is an excess of fat deposit in the body and the genitalia are infantile.

Hypertrophy produces acromegaly or gigantism. The stature is enormously increased, yet in the later stages the men are impotent and the women have amenorrhoea. The chief mental picture is one of general enfeeblement. They are apathetic, dull and at times irritable and depressed. Dementia gradually follows. Epilepsy is often associated with enlargement.

Disease of the Suprarenals.

In Addison's disease exhaustion is the prominent symptom. With it occur depression, irritability and general lack of interest. Delirium and convulsions may occur in the last stages.

Disease of the Gonads.

Castration or disease of the testes before maturity, produce depression which is profound, as is general disinterestedness. The symptoms approximate to those of Katatonic depression, and this bears out Mott's theory of primary degeneration of the testes in dementia praecox.

Removal of the ovaries and uterus in adult females causes an upset of endocrine balance with the result that in many, symptoms of depression like melancholia or a general mental instability are not uncommon.

Psychoses and Head Injuries.

Although it is generally supposed that severe brain trauma produces mental disturbance; and this is often quoted by relatives of patients in eliciting the history and is a plea of defence in court, yet the last Great War taught that it is not correct. At the Napsbury War Hospital where only gun-shot wounds of the skull were admitted, the late Sir Percy Sargent found that after two years only two cases developed insanity directly attributable to wounds. Again, in the mental hospitals opened by the War Office for military insanes during the War, out of a total of over 5,000 admissions only 2 per cent had head injuries.

Apart from the possibility of the development of epilepsy there is little correlation between the symptoms and the site of the wound.

Cerebral concussion is the first result of a severe trauma and is followed on recovery by retrograde amnesia, i. e., loss of memory for events within a few hours preceeding the injury. At times the only symptom is partial loss of consciousness and after it has passed the patient may be in a state of fugue, i. e., act in an automatic manner without being aware of his actions.

This state is of great medico-legal importance, as acts of violence may be committed just as in post-epileptic automatism.

In most cases of head injuries however, there follows a subtle alteration in the patient's character. A previously steady, orderly person may become careless of himself or his property or home, neglects work, becomes untruthful, fraudulent, even lascivious. Headache, irritability, dizziness, insomnia and fits of anger or depression, and an undue fatiguability on mental or physical exertion are also common and constitute what has been termed Friedmann's Complex.

Where the brain has suffered gross damage, epilepsy is invariably the result leading later to dementia. In many cases a detailed life history will reveal a latent neuropathic predisposition which the injury has stimulated. Practically all such patients are intolerant to alcohol. Traumatic Epilepsy and Traumatic Neurasthenia are discussed under their respective diseases.



CHAPTER XII

Dementia.

The final stage of mental decay or dissolution as a result of disease or age, is dementia. Man's progress to the grave is a gradual decay of physical and mental powers but it is impossible to say when this begins as it varies with different individuals.

A man of eighty may be hale and hearty while another at sixty may be physically and mentally enfeebled. The mental enfeeblement is comparable to that of the mental defective, but the difference, as Esquirol described it, is that the dement is now an intellectual bankrupt while the defective had never any account or a very low one in the mental Bank.

At this period a psychosis of any sort, hitherto so exiguous in its manifestations as to have escaped notice, may become evident and, as the general vitality of the individual fails, become more and more marked.

In dementia the morphological changes in the nervous system are of more consequence than the psychological processes in the other psychoses. Dementia may be the end result of several conditions :—

Alcoholism and drug states.

Arterio Sclerosis

Cerebral Tumour

Encephalitis

Dementia Praecox

Paranoia

Manic Depressive Psychosis

Epilepsy

General Paralysis

Although arterial degeneration is the rule in old age it may not be present in the cerebral vessels. Here let us remember Hunter's dictum "a man is as old as his arteries". In tropical countries where maturity is reached early, decay also sets in early.

Senile Dementia.

Shakespeare aptly described senility in the seven ages of man as "second childishness and mere oblivion, sans teeth, sans eyes, sans taste, sans everything". We cannot answer at what age of senile decay a man is to be regarded as insane. Presenility, senility and dotage are all stages of decay between which there is no sharp line of demarcation.

Physical signs. In old age there is loss of flesh especially in the limbs and face; the latter is wrinkled and coarse, the eyes are sunken and the arcus senilis marked; the hair scanty and white. General health is impaired and weakness and frailty are marked hence he is unable to stand straight and the gait is tottering. Constipation is the rule but micturition is frequent or difficult, owing to an enlarged prostate. All activities both physical and mental are retarded.

Varieties—There are three varieties—

- (a) Simple or functional dementia.
- (b) Arteriopathic dementia.
- (c) Secondary dementia.

Primary dementia is synonymous with dementia praecox.

(a) **Simple dementia**—

Dissolution follows evolution in reversed order. The latest acquired faculties are the first to go.

Dementia in its mildest form may be only an exaggeration of the physiological change in age in which there is a narrowing of interest in general, an inability to retain new impressions and a

lack of emotions. Failure of memory is one of the first symptoms and may be both ante—and retrograde in type. Proper names are beyond recall. The memory gaps are frequently filled by fabrication and the scenes of childhood are mostly recalled. Dotage and anecdotage go hand in hand.

With loss of interest comes disorientation in space and time and an increasing poverty of thought. On the emotional side there is marked childish impatience and irritability. At times the old may be exacting, authoritative, restless and interfering. Mild confusion may set in, when he becomes apathetic and somnolent, sleeps most of the day and may be awake at night. In the depressed cases, hallucinations and delusions of a paranoid type may appear. Moral and ethical feeling deteriorate, sexual conduct of a shameless and perverted type may be indulged in and he becomes careless of his person and dirty in habits. The childishness of senescence is termed “*moria*”. Various accessory symptoms can change the clinical picture. Even in the simple senile cases some are torpid and others more lively and symptoms may resemble acute mania or melancholia.

Pathology—Great wasting of the brain is the most pronounced feature, and it may weigh less than forty ounces. The dura is thickened and adherent to the inner table; the pia is thickened and may be stripped with ease. The pacchionian bodies are large, oedematous and numerous. The increase of cerebrospinal fluid causes dilatation of the ventricles. In the frontal and parietal regions which are most affected, the cerebral convolutions are wasted. Microscopically, the cerebral neurones are disintegrated and show chromatolysis. They are also much diminished in number and there is glial proliferation. The cerebellum is unaffected.

Prognosis—Once dementia sets in with senility there is nothing that can restore degenerate cells and though the mental phases of depression or delirium (mania) or delusion may pass off, the intellectual deterioration is permanent.

Treatment—Senile dementia like amentia is incurable. The treatment therefore is on general lines and becomes purely symptomatic. Whether at home or in an institution, much care will be necessary over conduct, habits, diet and sleep. Mild cases can best be treated at home with adequate attention. With anti-social conduct certification may be necessary. In an institution they soon settle down to the routine of ward life and old demented are best left alone to pass their days in peace and comfort.

(b) **Arteriopathic Dementia.**

This condition is due essentially to sclerosis of the cerebral vessels, whose lumen is narrowed. From the deficient blood-supply a neuronc degeneration sets in. It must be remembered that severe cerebral arterio-sclerosis may be present with little evidence of this state in the general vascular system, and vice versa.

Symptoms may be due also to embolism, rupture or thrombosis. The appearance of psychotic symptoms depends on the severity and situation of the lesion.

Etiology—Is the same as general arterio-sclerosis, a history of syphilis, alcoholism, gout or lead poison is common. Men are affected oftener. A hereditary tendency is often noted. This disorder constitutes about 5 per cent of all psychoses and occurs usually between 50 and 60 years of age.

Mental symptoms—Whether the sclerosis affects the cortical or subcortical system of arteries, the ensuing symptoms are much the same. There is a slowly progressive reduction of mental

efficiency; at this time headache, dizziness, insomnia and irritability are usual. There may be local motor or sensory signs or an epileptiform or apoplectiform seizure may be the first symptom. Fatigue on slight physical or mental exertion and failure of memory are early signs. Attacks of excitement or depression may be present and pass into confusion which becomes marked. The memory defect is patchy and variable. Orientation in time and space is disturbed and there may be persecutory delusions. Motor disturbances such as hemiplegia, aphasia, apraxia may be present too. The personality is much more preserved here than in other forms of dementia. These patients have a very tenacious life and may live beyond seventy. One patient of the Ranchi European mental hospital with marked arterio-sclerosis and a hyperpiesis of 240 mm, for over 5 years, has lived beyond the age of ninety. Hypostatic pneumonia usually ushers in the end.

Treatment—Is the same as in simple dementia, but here an attempt may be made to reduce the high blood pressure by means of Spiritus Etheris nitrosi and liquor ammoni acetatis in a mixture, erythrol tetranitrate in tabloid form, or Anabolin by injections. The results however are not encouraging. Phlebotomy is depressing and in a short while the blood pressure rises again. Potassium Iodide may be tried and is useful to diminish headache, dizziness and even ward off epileptiform attacks. Careful nursing is called for to prevent the appearance of bed sores. Falls and accidents must be guarded against and the food must be light and nourishing. Patients are apt to gorge food voraciously and may end by choking. Alcohol should be withheld but do not stop tobacco. Smoking is one of the few pleasures left and a very great solace to the aged dement.

But under all circumstances as soon as the condition permits the patient should be kept busy with light occupational therapy.

In cases with maniacal symptoms hydro-therapy is most useful.

(c) **Secondary Dementia.**

Most of the chronic forms of psychosis end in some degree of dementia hence this state of weak-mindedness is frequently termed terminal dementia. Nevertheless repeated attacks of mental disorder may pass off leaving little trace of intellectual impairment. In paranoia the patient, except for his systematised delusions, may be very intellectual for many years, but as age creeps on it is difficult to say whether the delusions per se or endotoxic or senile changes in the brain bring on the final stage of dementia.

In the more severe forms of psychoses however, like dementia praecox, general paralysis, alcoholic and drug psychosis, epilepsy, and in profound amentia, the dementing process is much more rapid and progressive. In general paralysis of course dementia is part of the disease as neuronie degeneration is going on all the time. The mental dissolution may be partial or general and the degree of severity is proportionate to the gravity of the factors which give rise to it.

Dementia may range from mere stupidity or apathy of mind to a total absence of mental function. In these extreme cases or in the last stages of dementia, the patient is reduced to the lowest level of animal life. Terminal dementia therefore is not a clinical entity in itself but the end result of mental disorder.

Mental Symptoms.—When the mind has been weakened by the onslaughts of time and toxins, its functions are retarded in every direction. The patient arrives at the dementia stage very gradually. The primary psychosis wears itself out in time, though

certain of its symptoms may appear from time to time. Eventually he arrives at a stage of mental poverty which is marked by lack of interest in himself or his surroundings, paucity of ideas, lack of memory or total absence of it. He has no idea of time and place, unable to converse with any coherence and his speech may be limited to simple requests for food or comforts. The remnants of his delusions and hallucinations may appear occasionally. He is careless of his person and his property, dirty in habits, collects rubbish, eats greedily or snatches his neighbours' food, whilst some need to be fed by nurses. Any interference is resented as he is usually irritable. Sexual feelings are usually dormant or absent. In the last stages the patient is weak, bed-ridden wet and dirty and quite helpless.

Secondary dementers are usually the quietest patients in hospital and automatically conform to institutional discipline.

Prognosis—No case of secondary dementia ever recovers. With ordinary care and attention they may live for years. Intercurrent maladies, especially pneumonia, against which they have little resistance, usually ends the scene.

Treatment—Since these human derelicts cannot be saved by any form of therapy the only thing one can do is to make their lives happy and comfortable. Careful and regular management are called for to keep them neat and clean, prevent the formation of bad habits and improve their strength and physical state. Mild exercise in the open air, partaking in simple outdoor games should be insisted on. Most of them can be made to help in ward work, learn some handicraft or play a musical instrument and help in the garden. A purgative once a week is necessary to overcome constipation. Care should be taken to prevent falls or accidents which may produce fractures of their fragile bones.

Alzheimer's Disease.

Synonym—"Senium Praecox".

This condition was first described by Alzheimer in 1906, is a presenile type of cerebral degeneration characterised by its insidious onset and a rapidly progressive course which terminates in profound dementia with aphasic, agnostic and apractic symptoms and finally results in death. It usually occurs about the forties but has been reported as early as thirty-one (Schnitzler) and as late as sixty (Perusini).

Etiology—When Alzheimer first described this histopathological picture and Kraepelin later fitted the clinical description to it, it was not possible to give any idea as to what the etiology of the disease might be, other than to suggest that it was a presenile condition. Since then the work of several investigators, notably Malamud, Fuller, Lowenburg and Rothschild in America, and Schnitzler and Grunthal in Germany has led to the conclusion that Alzheimer's disease is really a syndrome with a multiplicity of etiological factors.

The pathological brain condition, plaques and fibril changes have been seen in a case of post scarlatinal amentia as early as 23. Syphilis of the central nervous system may likewise produce the same changes. Infective mastoiditis, toxins of rheumatism, septicaemia and even myxoedema are also considered to be factors. Though plaque formation is usually seen in senility, it is not the result of it alone but other exogenic toxic factors and may appear even before the presenile age.

Pathology: The brain shows a high degree of atrophy especially in the frontal region. The dura mater is thickened and adherent to the inner table, and pachymeningitis haemorrhagica is usually found. The cerebro-spinal fluid is increased. The

most marked features are the histological changes which show degeneration of nerve cells and fibres with the formation of numerous nodular sclerotic "miliary plaques". These plaques are the result of degeneration of nerve cells around which is a proliferation of intracellular neuroglial fibrils which are fused together or formed into loops, whorls, or rounded masses as if encapsulating the disintegrated masses. Cellular degeneration and plaque formation is seen in all parts of the cortex in a degree rarely seen in senile dementia. Some state that these plaques are almost a normal feature of senile brains. As in general paralysis of the insane, spider cells may also be found. The process represents an attempt at repair by scavenger cells.

In the spinal cord there are signs of degeneration of the pyramidal tracts in the central and lateral columns and is probably secondary to the degenerative process in the cortex.

Physical Signs—In nearly all cases there are signs of bulbar paralysis, aphasic, agnosic, and apraxic, disturbances. Dysphagia and disturbances of speech are constant and also facial and hypoglossal palsies. There are fine tremors and twitchings of muscles of the face and extremities. Epileptiform convulsions may also occur. The gait is at first spastic and from general increasing weakness the patient is finally bed-ridden and emaciated like a general paralytic.

Mental Symptoms—One of the early signs is the rapidly increasing loss of memory for both recent and remote events. The accustomed tasks are forgotten, articles are misplaced and cannot be found and there is incapacity for work, both mental and physical. Disorientation in time and place appears early, the intellect fails rapidly and complete dementia is the end result. Visual and auditory hallucinations may be present and

transitory delusion of persecution also. The mental picture is not unlike that of simple dementia but the rapidity and severity of the dementia and the marked neurological changes as well as symptoms of bulbar paralysis distinguish Alzheimer's disease from other dementias. From arterio-sclerotic dementia it is distinguished by the early onset and absence of cardiovascular changes. From dementia paralytica (General Paralysis) it is differentiated by a negative luetic reaction in the blood and cerebrospinal fluid, the lesser prominence of delusions and the presence of aphasia and apraxia.

Prognosis is unfavourable as the condition is progressive and rarely lasts two years and no treatment is of any avail.



CHAPTER XIII

TREATMENT.

The development of modern psycho-therapy is traceable in the historical survey of mental disorders, regarding which various conceptions have been held throughout the ages. In the earliest times when insanity was regarded as a "Visitation" of an evil spirit or due to the wrath of the gods, afflicted persons were either exorcised by priests and magicians or put to death. In spite of the teaching of Hippocrates about 400 B. C. that insanity and epilepsy were due to disorder of the brain, the conception of demoniacal possession held sway throughout the middle ages and the treatment of the insane was mainly by prayer, incantations, amulets, charms and potions with magical properties. Dungeons and chains were the lot of most, while flagellation, starvation and other crude methods of subduing insanes, such as turning them strapped to a wheel to increase the blood flow to the brain, were resorted to. It is not uncommon even at the present day to hear relatives suggest that patients have been "drugged" or "bewitched". As the insane population increased, grim buildings were set up and were simply prisons of the worst description. Of treatment in the medical sense there was none. The only contact they had with the outer world was when they were exhibited at fairs or a circus. In 1788 Chiarugi in Florence, in 1792 Pinel in France at the Bicêtre, and a year later Tuke at the York "Retreat", freed their patients from chains and dungeons and began the moral and humanitarian methods of treatment. This was the beginning of the era of emancipation of the insane. From this time onwards the system of non-restraint has spread the world over. Even the "padded cell" which was in vogue for some time is now fast disappearing. With the march

of medical science, greater attention has been paid to the study of mental disease, and psychology which has long been the "Cinderella of medicine" is now to the fore-front of modern sciences. Society however still guards itself by bringing the insane under the eye of the law, but the present system of voluntary admission, paroles, private nursing homes etc. are favourable wedges driven into the block of control. The old asylum is giving place to modern hospitals where scientific research and treatment run side by side with humanitarian sympathy and kindness to brighten the lives of all who are in the gloom and distress of mental unhappiness.

The treatment of the various clinical conditions has been dealt with in previous chapters. A detailed account of general treatment and of special methods now follows.

The general treatment of insanes is best considered under three heads :

- (a) Early treatment and prevention.
- (b) Curative.
- (c) Care of the incurables.

(a) Prevention and early treatment.

When one considers the vast amount of money that is spent on the care of the insane in Europe and America and to a less extent in India, and that the annual recurring expenditure is growing with the increase in the numbers of the 'unfit' population which is controlled by a department which from the State's point of view is least productive, it is most obvious that prevention is most important for economic reasons alone. To understand the treatment of mental disorder necessitates a knowledge of the working of the normal mind and the influences that may disturb it. In spite of the vast amount of research that has been done

recently by every school of thought that has probed into the domain of psychology, there are many mysteries unsolved and there can be no doubt that the best line of attack is from both the physical and psychological sides. No single form of therapy is adequate, but whatever is done must be done early.

The wider implication of prevention comes within the sphere of mental hygiene, but if only the profession and the public could be induced to consider the earliest signs of abnormal behaviour as danger signals frantically calling for immediate attention, the further development of mental disorder can be checked. In the early stages the changes may be mild, subtle, fleeting, and too often the relations of patients are ready to deny that anything is wrong and are apt to delay treatment through foolish pride or prejudice until a psychosis is fully developed and certification is imperative.

Too often the nature of the illness is not recognised and valuable time is lost by prescribing a bottle of medicine, a trip to the country or seaside, the patient told to "pull himself together", or he is deprived of his teeth, tonsils or appendix and the psychiatrist not consulted till everything has failed and by now the psychosis has advanced.

One reason why the public are loath to approach a mental hospital for treatment is the false idea of a "stigma" attaching to anything mental and the fear of being ostracised by society. There is no disgrace in being mentally afflicted. It is just as any other illness that is man's lot. In order to dispel ignorance and stimulate a wider interest in the study of personality disorders which must be treated and checked in the earliest stages. A psychiatric clinic must be attached to all general hospitals, Here, border-line cases and others may apply for advice and

treatment just like ordinary out-patients. A Ward set apart for mild cases requiring observation, rest, and treatment is the most satisfactory method of treating recent cases and will serve as a clearing station to a mental hospital if necessary. Admissions to the clinics, of course is purely voluntary. The opening of private nursing homes throughout the country, especially in large towns would be a great boon. Not only would the better class of patients be readily drawn to it, they would also be centres for early treatment and lighten the congestion of state institutions. Especially would they be a refuge for psychoneurotics of whom there is undoubtedly a large number in the general community.

Considering that in about 50 per cent of cases of psychosis a history of inheritance is available, the question arises whether psychopaths should marry and one that is often asked when a young person is discharged from hospital. As a general rule, it is best to give the famous advice of Punch, "Don't". If, however the marriage is determined upon, the other party ought to be warned and both advised that there should be no progeny. Sterilisation may be advised and may be necessary in some cases. Those with remissions from delusional insanity or general paralysis and epileptics, should not be allowed to marry on any account.

In the case of women, one attack of puerperal insanity should be a bar to future pregnancies.

The question of returning to a former occupation after a recovery would depend on how far the environment and the occupation was contributory to the breakdown, but as a rule an occupation may be resumed after an interval of two or three months after discharge.

(b) **Gurative Treatment.**

On the admission of a patient to an institution, it is best to leave him alone for the first day to rest in bed, providing of course there is no special symptom that needs attention. Kindness sympathy and tact will go a long way in assuring and adjusting a patient in his new environment. A thorough physical examination should then be done and next an even more thorough mental one. Any focal sepsis, such as pyorrhoea, caries, sinusitis, which are common, must be cleared up. Constipation, which is also invariable should be corrected immediately. The blood and cerebro-spinal fluid of all cases should be tested for the Wassermann reaction. The urine should also be tested once a month. Each patient should have a weight chart showing weekly or monthly weighments. A record of the patient's sleep must be kept daily for the first month at least.

Supervision and control—The ordinary routine supervision by the ward staff is all that is necessary in the case of most patients. The majority of patients are docile and amenable and soon settle down to ward discipline and the routine of washing, dressing feeding, attending occupation classes or other allied departments of therapy, joining in games out-and indoor, dances, socials, etc. without any help. The schizoid, introverted, negativistic, apathetic type of patient needs more attention and has to be helped in all his functions. Nothing beyond a little firmness and tact is needed. Experience has shewn that the nursing of mental patients whether in Hospital or at Home is best undertaken by female nurses. The employment of male nurses is gradually being discontinued because it is found that female nurses are more gentle, tactful and sympathetic. Further they can encourage and instil confidence in their patients better. The nursing of mental patients demands the possession of the highest and best qualities in a nurse who should

have in addition an inexhaustible store of patience and good humour.

Only when a patient becomes unmanageable, aggressive, resistive or destructive, or when suicidal tendencies are strong, are special attendants necessary.

If the patient can afford it, at least two or three private attendants should be engaged. Their sole duty will be to attend their charge only and constantly, to prevent him injuring himself or others and to correct every form of misbehaviour and to attend to all his personal wants. Violence by patients is not continuous. It begins and ends abruptly, hence any situation can be tackled by one or two attendants at most. Attendants, whether nurses, ward-boys or ayahs must be warned to be extremely tactful, kind and gentle to the patients always. An excited, aggressive patient can often be soothed by offering a cigarette, food, or a drink. If the patient is suicidal, as all melancholics are, he must be attended constantly. Vigilance should never be relaxed, even when they show signs of improvement, but it should be unobtrusive. If a patient on admission is suffering from acute maniacal excitement, is aggressive, destructive and restless the best means of restraint, which at the same time is curative, is a hydrotherapy bath. The most violent and noisy patient can easily be controlled by immersion in this bath and little else is needed. Any other form of restraint as padded-rooms, seclusion, by locking him up in a room, "straight jacket", gloves without fingers or strapping to a bed should never be resorted to. These are not only out of date but are most deplorable and harmful. If the case is acute and hydrotherapy is not advisable, a course of prolonged narcosis by Somnifene or sodium amytol as described in the treatment of acute mania is indicated providing the physical condition will allow. In most institutions the system

of locking up patients at night is still in vogue and is to be condemned. By so doing a hospital becomes a prison. Nobody values liberty more than the mentally afflicted.

Diet—The proper supervision of diet is an important factor to consider, both for bed cases and for those who take their meals in the ordinary dining room; not only must food be sufficient nourishing and digestive but the manner of serving it is as important. Dining rooms should be fully and properly equipped with clean sheets and napery, serviceable crockery, glass and cutlery. Food should be appetising and served hot. Some patients are apt to gorge food voraciously and steal from others. These should be served with a little at a time and the table manners of all should be proper, if not, they must be corrected by the nurse in charge. Those with poor appetites must be coaxed or fed by nurses and attendants. If a patient refuses food on admission or at any time he may be left alone for a day and he will soon be driven to ask for it, but if refusal is persistent, tube feeding must be resorted to, and in some cases two or three nasal feeds soon corrects this refusal. Tube or nasal feeding must be done by the house physician and not left to nurses. The use of nutrient enemata is seldom required in mental hospital practice. Nasal feeding is done by passing a rubber tube, No. 10—13, along the posterior part of the nostril and down to the pharynx. If told to swallow, it facilitates passage, but a resistive patient may manage to deflect it back into the mouth. If it passes into the larynx, severe coughing is set up, when the tube should be withdrawn a little and pushed in again. Most patients retch as the tube passes into the oesophagus but this stops soon and the tube easily passes down. When it has reached the stomach a little drinking water is first poured into the glass funnel attached to the outer end. It is immediately followed by the feed, which should con-

sist of a pint or two of milk, beef tea, or Ovaltine. An aperient or sleeping draught as necessary may be administered at the same time. If care is taken to sterilise the tube there is no risk of any inflammation of the nasal passages. Two feeds a day are quite sufficient. It is well to preach', "the gospel of fatness" for it will be apparent time and again that the mental condition of a patient begins to improve as the weight goes up and with it the general physical health.

Insomnia and its treatment—A history of insomnia is given in most cases and before admission have probably been treated with various hypnotics. It is advisable to observe how the patient sleeps the first night on admission without any drugs, and often it is found they do so quite well and may continue to do without the help of drugs. Schizophrenic patients as a rule sleep very well. In acute mania, melancholia, confusion, G. P. I and the drug addictions, sleep is grossly disturbed. Before flying to the aid of drugs attempts must be made to induce sleep by other means. Sometimes a timid, nervous patient, can be helped simply by the presence in the room of a sympathetic nurse or attendant, who can allay his fears or distress with gentle persuasion and encouragement. A night light in a room is much appreciated by many. Light massage on retiring to bed is often helpful. If these fail, a cup of warm Ovaltine and a hot foot bath act quite well.

Rarely is insomnia a cause of insanity, but is one of its most important symptoms. It may also occur in the following conditions, hence in treating insomnia the cause must be first attacked.

(a) Physical states :—

(i) Pain—Neuralgia, neuritis, arthritis, or colic from any cause.

- (ii) Dyspnoea—Asthma, cardiac, disease, nasal obstruction.
 - (iii) Cough—Phthisis—bronchitis, pneumonia.
 - (iv) Pyrexia—Acute specific fevers.
 - (v) Frequency of micturition—cystitis, prostatitis, diabetes.
 - (vi) Pruritis—skin disease—
 - (vii) Toxic states—chronic sepsis, alcoholic delirium.
- (b) Psychogenic states—
- (i) Anxiety states—mental conflicts, apprehension, vivid dreams, pavor nocturnus in children.
 - (ii) Neurasthenia and exhaustion states.
 - (iii) Hysteria and compulsion neuroses.
 - (iv) Acute mania, melancholia and confusion, G. P. I. and paranoia and Katatonic excitement.

When all physical causes are excluded the conclusion reached is that insomnia is of psychogenic origin. Most of the psychoses begin with symptoms of insomnia. The result of insomnia from whatever cause is increased fatigue, loss of concentration, anorexia, and irritability. Supposing that the insomnia is purely psychogenic much can be done among nervous or psychoneurotic patients by allaying their anxiety, and fears by elucidating their mental conflicts, by encouraging them to retire in a tranquil state of mind and to show an indifference to sleep and not make desperate efforts to sleep as most do. By practising complete muscular and mental relaxation alone, a feeling of rest and drowsiness develops. Reading a paper sometimes helps but only those accustomed to this habit should be advised to do so. A little alcohol at bed time acts as a draught to some few,

and only selected cases should be tried. For ordinary hospital use and poor patients Rum should be given. For the plutocratic insomniac Burgundy or Red Hock may be prescribed. Any other form of alcohol unless taken in large doses, only excites.

Hypnosis to induce sleep is not as successful as might be expected. When the psychotic state is acute the insomnia must be controlled at all costs at once and its duration thereby cut short. A noisy wakeful patient must be made to sleep for his own sake and that of his ward companions.

Each case must be treated on its merits and hypnotics prescribed only when all other methods as soothing, persuasion, a warm drink and a foot bath, warm sponging, massage, hydrotherapy etc. have failed. The administration of an enema as an aid to sleep, is, especially in males, sometimes efficacious. The warning frequently given in text books on the risks of forming a bad habit with drugs is more exaggerated than real, as patients are only too glad to discard the hypnotic on recovery. In mild cases it is wise to begin with the bromides, grs. 15-20. The veronal group are more potent, have no toxic effect on metabolism and not commulative Medinal 7 to 10 grs. Luminal grs. 1-2 are quite useful.

Paraldehyde (1 to 2 drachm) and Amyline hydrate (1 to 2 drachm) act quickly and are safe to use but owing to their nauseating pungent taste are often rejected by patients, even when sweetened. Somnifen mxxv by mouth in a little milk is more palatable. If a patient is very excited, noisy and boisterous at bed time, morphia $\frac{1}{4}$ gr. or somnifen 1 c. c. injected intramuscularly is the best and quickest way of quietening him. Morphia should not be given as a rule and in mental hospitals is seldom needed. Even acute manic depressive cases seldom requires drugs for long

periods. In hospital practice it is found that when a patient gets noisy and excited at night or even by day a tepid bath, or a cold one in summer, is as good as any hypnotic to quieten him. The ward staff should never be permitted to administer hydrotherapy without the explicit orders of a medical officer; as patients are apt to look upon a bath as a form of punishment.

Shock Therapy

Pascal and Davesne develop the view that a psychosis is analagous to anaphylactic shock. The whole theory of repression may be said to be based on the fact that a persistent inhibition of feeling has pathological effects on the organism, for the more the external or motor manifestations of the emotions are inhibited the greater will be the organic endocrine disturbances, the result of an accumulation of discharged endocrine products. Not only does emotional disturbance have an effect on the endocrine glands but the endocrine glands can produce an emotional disturbance which in its turn brings on a blood vascular crisis. In a predisposed individual a psychic trauma or shock is sufficient to produce a neurosis or psychosis, but the emotions as well as illnesses are also capable of curing some psychotic states. It is a common experience of psychiatrists to note a beneficial improvement in an otherwise unresponsive patient due to the emotion aroused by a visit from his relatives. On the other hand another patient who is convalescing may have a relapse. In both cases we are dealing with a mild type of psychic shock. The procedure involved in psychoanalysis is also capable of evoking something in the nature of a psychic shock, the effects of which in psychoanalytical language, are termed 'abreaction'. Physical shocks too may in some cases be beneficial. A chronic case of dementia praecox who had been mute and apathetic for five years was one night severely assaulted and 'knocked out' by another patient. He

made a complete recovery by the morning and is now filling a responsible post on the railway.

It is also a common experience in mental hospitals to notice a marked mental improvement in patients who have a severe physical illness. It is presumed that this improvement in the patient's mental condition is brought about by the invading pathogenic organism, whatever it may be, producing a haemoclastic crisis.

From this we get the beneficial effects of anaphylactic shock. Working on this hypothesis Wagner-Jauregg in 1887 recognised that the artificial production of fever might be employed for therapeutic purposes.

In 1917 he clearly demonstrated that General Paralysis can be considerably improved by the inoculation of malarial blood from another patient, or producing malaria through the bite of infected mosquitoes. Since then, this method of pyrotherapy has been adopted universally not only for general paralysis, but other psychoses as acute confusion, manic depression, dementia praecox and even epilepsy. Malaria therapy is more fully described in the chapter on General paralysis. Other forms of pyrotherapy are the injection of colloidal metals, polyvalent vaccines (T. A. B.), Sulfosin, and sterile milk. Diathermy is also employed.

The induction of an acute aseptic-meningitis by the inoculation of sterile normal horse serum intrathecally has been tried but the results are not encouraging.

More recently Professor Petit and other French psychiatrists have shown that the subcutaneous injections of Thorium X or of Radium Bromide in small doses of a few microgrammes, can influence favourably the course of certain psychosis. Radio-active serum therapy however is quite a different affair to a

simple shock therapy, for here the action of Radium is direct and specific. The changes in the blood picture, which treatment brings about are almost constant. In spite of the profound anaemia the red blood cells increase and the polynuclear leucocytes diminish, in all the infective psychoses. This form of the rapy has given very satisfactory results—The beneficial effects of pyro-therapy are believed by some to be due to the effects of high temperature, others have ascribed these to an acceleration of metabolism and the elimination of waste products. It is more probable that in the first stages, there is a leucopenia followed by a high degree of leucocytosis, and that this produces anaphylactic shock. In the case of malarial therapy in general paralysis it is not the malarial parasite that is specific, for equally good results may be obtained with tuberculin and the bacillus of relapsing fever. The mechanism of cure in malarial therapy is due to the destruction of large numbers of parasites by quinine which set free antigens, leading to the production of immune bodies in the system. At the same time a new supply of blood is reproduced whereby both the physical and mental states improve.

Glandular Therapy—The employment of organic extracts has been advocated extensively, not only as a substitute for supplementing deficient internal secretions, but as a form of protein therapy. Cretinism and myxedema readily respond to thyroid administration. In agitated melancholia injections of secretin have been found useful by Lovell, and in certain psychotics the injections of extracts of the gonads of the opposite sex have been useful. On the whole, the use of glandular therapy in mental hospital practice is far from promising.

HAEMOCLASTIC CRISIS IN THE PSYCHOSES

Every substance introduced into the living body produces a reaction in one or more parts or on the whole, and this reaction

may be assimilative, protective, or destructive. The ingestion of food produces a number of physiological changes necessary for assimilation and one of the most easily demonstrable changes is in the blood.

The Colloid constituents of the fluids in the body are according to Widal's theory in a condition of equilibrium. The colloid-balance can in a sensitised individual be disturbed by minute quantities of an incompatible colloid, or even a crystalloid. This colloidoclasia is accompanied by the changes in the blood and is described as the haemoclastic crisis.

The effect on a normal person after ingestion of milk varies from leucocytosis to leucopenia, to no effect. The haemoclastic crisis is the name given by Widal, and his colleagues to the blood-vascular changes following the taking of milk by patients suffering from hepatic disease. This crisis is characterised by leucopenia, fall of blood pressure, inversion of the leucocytic formula, hypercoagulability of the blood, and diminution of the refractive index. To demonstrate the presence of the haemoclastic crisis, the subject is given 200 gm. of milk after having fasted 5 hours or the previous night. The blood pressure and a total and differential count of the white blood cells is done previous to, and at intervals of 20 minutes after the ingestion of milk. A hyperleucocytosis is usual in normal subjects, while the blood pressure remains either unaltered or tends to rise. The crisis reaches a maximum generally 40 minutes after ingestion. Then follows an immunity which lasts three hours. Several interesting results were obtained by Dr. I. M. Robertson of the Maudsley Hospital. She reports that the haemoclastic crisis does not occur in the normal healthy subject but that 85 per cent of all chronic psychotic cases respond to the ingestion of milk by an abnormal reaction. Further, the presence of the crisis in early psychotic and

neurotic cases is an indication of the presence of a psychosis, chiefly of the dementia praecox type. The neuroses, with the exception of anxiety neurosis, give no reaction or a normal one ; but hyperthyroid and arteriosclerotic patients respond with a leucopenia. The influence of the sympathetic and parasympathetic nervous system is a factor in the genesis of the crisis. Adrenalin, atropine, or thyroid extract, can cause a reversal of the reaction i.e. convert a leucopenia into a leucocytosis in the psychotic but not in the normal person. Curiously enough glucose causes haemoclasia in diabetic subjects but not in the psychotic who exhibit it after taking milk. In encephalitis lethargica also, the crisis occurs in 90 per cent of cases and it can be prevented by the previous administration of adrenalin. In view of the fact that epileptics are generally positive, a negative result would be an indication against the diagnosis of epilepsy, in doubtful cases of hystero-epilepsy. A positive result would not, however, necessarily exclude hysteria.

OCCUPATIONAL THERAPY.

Occupation was first introduced in 1425 in the asylum at Saragossa in Spain as a means of therapy for mental patients and since then the value of regular employment towards health and happiness has been recognised ; and during recent years it has been developed to a high standard and applied with such benefit that it forms the sheet anchor of therapy in modern hospitals.

One of the earliest occupations for mental patients was employment in tilling and gardening with the idea of raising vegetables and farm products to help in reducing the cost of dietary.

The value of organised therapy lies in the fact that the patient is made to realise that there are still some things that he can

do systematically and successfully, and even though he may have failed outside he can succeed under hospital conditions. It is a form of distraction that is essential among insanes in order to divert their thoughts from their own gloomy conflicts, delusions and hallucinations, to act as a tonic to depression by stimulating and creating fresh interest and lastly preventing mischief that is the result of idleness. The most prominent therapeutic effect of organised occupation is the prevention or mitigation of "bad habits" and the arrest, especially amongst precocious dements, of the process of introversion with all its disastrous concomitants. Under "bad habits" must be included dirtiness, slovenliness, laziness, irritability, destructiveness, quarrelsomeness, and masturbation. Nowhere in the world does the old saying about "Satan finding mischief for idle hands" apply more fitly than in a mental hospital, where three-fifths of the patients are precocious dements who by reason of the atrophy of interest prefer to spend their time in a self-centred and self-sufficient isolation. Then there is the remaining two-fifth for whom some kind of activity is a perpetual craving, so that without ample means at the disposal of the hospital to meet this need some kind of mischief or at the best some utterly fruitless endeavour to engage the attention are the inevitable consequences. It must never be forgotten that all varieties of mental disease have one fundamental characteristic in common, namely a flight from reality. Hence the fundamental principle of any sort of psychotherapy must be an endeavour to lead the sufferer back again to reality or as near to it as may be. Further, in view of the fact that the sense of reality for all mankind connotes some idea of work, the reality-principle cannot be said to exist apart from an appreciation of a specific effort in some direction. In these circumstances, an ample provision of means for resuscitating in every

patient the failing faculty for adjustment to environment is a matter of prime importance. Thus occupation can and does arrest the tendency to introversion, to daydreaming and to indulgence in other types of phantasy; in some cases completely, in others partially, but in all beneficially. First of all there must be an occupational department housed apart from the wards and entirely self-contained. There should be a large central hall where finished articles are exhibited, as well as for needle-work classes. Each handicraft, such as carpentry, varnishing, cane-work, weaving, lace-making, rug-making, book-binding, leather work, modelling and iron foundry etc. must have a separate section. There should be one occupational therapist for the men's section and one for the women's section, assisted by a staff of male and female qualified instructors in each department. As soon after a patient is admitted a prescription for occupational therapy on a special form should be made out. In it must be noted the patient's mental attitude, his previous vocation and his special or general interest, capabilities, hobbies, etc., and according to his physical and mental state a particular occupation assigned him. All patients should attend the department for at least two hours in the morning and two in the afternoon. During these hours the ward and nursing staff should also attend and be posted to supervise, help and encourage patients in each section. Wherever possible there must be a system of team work to stimulate co-operation and higher endeavour, to encourage good work, promote competition and to check bad habit formations. Deserving patients should be given a weekly reward in cash or kind or a percentage of the sale-proceeds of the manufacture. This department should not look for pecuniary gain from its products. Quality, quantity and saleability of the products may, at times, prove beneficial by stimulating and satisfying the patient but should never be per-

mitted to obscure the main purpose of the treatment which is therapeutic. There should be daily, or weekly conferences between the Medical, Nursing and Therapist staff to discuss the problems of the department and receive reports on particular patients, to review the progress of a team or section etc. Two other branches of this department deserve special mention. Music and Physical Culture.

Music—Every occupational department should have a music section under an accomplished instructor. Music makes a great appeal to all and if it can "soothe the savage breast" it is certainly be beneficial in helping patients to forget their mental conflicts. In the words of Dr. Van De Wall "General indifference then threatens to kill where active awareness of personal responsibility in regard to the other man's need would help. Music comes here to the rescue. It predisposes to gentleness; it awakens moods of pleasantness; it guides identically tuned souls to one another; it rouses human individuals from their apathy and inspires them to be good to one another". At these classes patients should be taught to dance sing and play, individually or collectively. Community singing makes a strong appeal to most patients, and it is curious to note how the most apathetic and demented will join in song. The musical talents of patients should be elaborated. Weekly "socials" should be held at which patients may freely join in a well-conducted programme of music and dancing. Similarly patients should be encouraged to take part in simple theatricals, tableaux, recitations etc, and thus help to brighten not only their own lives but those of their companions also.

Physical culture. The advantages derived from this department are two fold. The physical improvement that must ensue from a course of drill and training needs no elaboration. This department under a trained physical culturist, assists in not

only improving the general health of patients by a course of drill, gymnastics, calisthenics and numerous other physical exercises, but in also stimulating interest to progress, dispelling apathy and indolence and regulating conduct in orderliness, obedience and general discipline. The more robust patients may have a course of boxing, fencing, wrestling, gymnastics, drill, etc. while older ones can take part in simple exercises. For schizophrenics, in particular those who are listless stuporose and quite disinterested, drill and exercise act as a strong stimulant to activity. This section can also supervise the muscular exercises, prescribed for tabetics, general paralytics and the hemiplegic and the great benefit that is usually derived from such exercises is remarkable.

Habit-Formations- The majority of mental patients if left to their own resources without proper care and control, behave just like children. They are so engrossed in their own world of phantasies that they are careless of the ordinary rules of conduct in matters of dress, eating, washing, sleeping and are apt to develop bad or dirty habits. In order to check any bad habit such as, slovenliness destructiveness, boisterous behaviour, obscene language or masturbation, collection of rubbish, spitting in public, bed-wetting etc. a patient should be put on to a Habit Formation Chart. On this the patient's bad habit is described and methods to counteract it are suggested. The attention of the entire hospital staff, especially the Ward staff, is drawn to it and all are warned that as soon as a patient indulges in his particular habit he is immediately checked in the manner prescribed. This constant correction is a form of re-education and in a little time most patients respond favourably till their general behaviour approximates the normal. In the exercise of ward discipline, or of moral guidance and control, be the patient

ever so bad, it must be borne in mind that he is insane and that severe measures must be avoided. Ill-treatment or retaliation in any form cannot be countenanced. The most that can be done in the form of punishment is the withdrawal of privileges, either in diet, money, liberty, or social intercourse. The stoppage of these pleasures and amenities takes away the spice in their lives and is often sufficient as a punishment and deterrent.

Games—Play is as much a curative agent as work and hence the day's routine must end in recreation. In the early evening outdoor games of every description must be organised for both male and female patients assisted by the staff. Tennis, cricket hockey, football, basket ball, croquet, clock-golf, badminton, etc. can all be played side by side in a large play-field.

Feeble and elderly patients who are unable to do anything should be taken out for small walks or drives in a car or bus. After the evening meals they should be assembled for an hour in the recreation hall where there may be indoor games, dancing, music or a cinema show. The cinema, whether "silent" or a "talkie", is a great source of pleasure to the majority of patients, especially comic films, topical gazettes, travel scenes and small dramas or comedies. Every mental hospital should have a cinema machine as well as a Radio installation. With the latter machine there need be no fear that patients with auditory hallucinations of "Radio voices" and "messages" will be adversely affected. Such patients enjoy the radio as much as anybody else.

Psychotherapy—There is an erroneous impression among doctors that psychotherapy is a specialist's job. In its more technical forms it is, but every doctor in his daily practice is unconsciously utilising psychotherapy by suggestion, persuasion, encouragement and advice in treating the symptomatic results of

life's difficulties, dissatisfaction and disharmonies in the hearts of his patients.

The general practitioner, in addition to his knowledge of general medicine and more up to date methods of examination and diagnosis by physical chemical and electrical aids, should have a sympathetic acquaintance with what is called human nature and the motives and mechanisms of both normal and abnormal mental functioning.

Having done a thorough physical examination of the patient to exclude or remove any possible source of infection or other disability as a predisposing cause, the next step is to do an even more thorough mental examination. Begin by taking the history. It is a far longer and more painstaking matter and may be safely regarded as never ending. History taking is of itself a beneficial therapeutical method because of the catharsis which it affords. There are two kinds of psychological examination, which may be called the cross sectional and the longitudinal. By the first you simply elicit the presence of symptoms which are psychological and of diagnostic importance. The longitudinal method is the taking of the patient's history as well as the history of its symptoms. This latter method embraces a part of psychotherapy. Modern psychotherapy is largely a talking cure. With patience, sympathy and tact most patients can be encouraged to tell you their innermost secrets and worries. Take down every statement of the patient no matter how trivial or irrelevant, but don't argue or advise now. Remember you are in the position of a father-substitute to the patient. Value your dignity too much to stand on it and be open and friendly with patients to the best of your nature and ability. A simple query as "what do you think is the matter with you?" or "are you worried about anything" will

produce a flood of information when you have gained the patient's confidence.

The chief varieties of psychotherapy are :—

Suggestion

Hypnotism

Persuasion and re-education

Psycho-analysis

(a) **Suggestion**—McDougall defines suggestion as “a process of communication resulting in the acceptance with conviction of the communicated proposition in the absence of adequate logical ground for its acceptance”.

Janet's definition is “suggestion is a peculiar reaction to certain perceptions; the reaction consists in the actuation, more or less complete, of the tendency aroused by the suggestion, in the absence of a completion of the activation by the collaboration of the remainder of the personality.” Paul Dubois maintains that “to suggest is to introduce an idea by the back door of the mind”.

It is the simplest form of psychotherapy and the oldest of any kind of therapeutics.

Suggestibility is a normal characteristic and varies in extent in each one of us or vary in the same person at different times. Freud's theory is that suggestion is a kind of rapport between one person and another or a person to himself (auto-suggestion) or one person to a group, based upon the continued activity in us of infantile relations of child to parent. Suggestion plays an important part in every phase of life. The advertisement in the papers and in the streets, preaching from the pulpit and platform are suffused with suggestion. So also with religious belief, faith healing and quackery. A “placebo” and a bottle of medicine are

saturated with suggestion. The personality of a doctor and his good bedside manner is as important as his professional knowledge and his words are loaded with authority and accepted as gospel truth by the patient.

Suggestion may be applied in the following way.

Hypnotism—Hypnotism may be defined as the “momentary transformation of the mental state of an individual, artificially induced by a second person and sufficing to bring about dissociations of personal memory”. Suggestion and hypnotism are nothing more than the artificial employment of impulse and somnambulism. When we suggest, we induce an impulse in the place of a reflective voluntary action, when we hypnotise, we induce somnambulism in the place of the waking state.

Hypnotism gradually evolved out of Mesmers’ theory of animal magnetism. Braid first coined the word “hypnotism” in 1843. It is nothing more than sleep induced by another person by the suggestion that the subject will sleep. It was very much in vogue about 100 years ago. In Calacutta, in 1842, Dr. Esdaile was very successful in performing painless major operations in the prechloroform days. It is easy to hypnotise provided the subject co-operates fully. It is best done as follows :—

Having gained the patient’s confidence and assuring him that no harm will come to him, that he will have an ordinary “nap” and will wake up when told to, and that he will benefit both physically and mentally by it ; ask the patient to prepare himself in bed as if about to have his daily sleep. Let the room be darkened by closing the doors and windows and drawing the curtains to shut out noise and light. Have another person in the room standing behind the patient’s head.

The patient, especially if a woman is reassured by the presence of a third party. Never hypnotise a female patient without a nurse in attendance. Advise the patient to keep his mind as blank as possible, not to concentrate on the idea of sleep and to shut out all thoughts ; except the idea that he is tired and about to sleep. Ask him to lie quiet and quite inert in bed and to relax every muscle in his body. This can be helped if he is asked to take deep breaths and to expire as far as possible. Test the muscle relaxation by lifting up an arm and letting it drop by its own weight on the bed. Next sit on a chair close by the bed and place your extended index finger about 9 inches before the patient's eyes and ask him to stare fixedly at the tip of your finger with both eyes. By this the eyes are made to converge inwards as well as upwards as in the position of natural sleep. Tell the patient that as soon as he feels drowsy, which will be in a minute or so, to close his eyes and sleep. Neither patient nor physician should speak. In a short time the muscles of the eyes get tired, the eyelids quiver and the patient will close his eyes in sleep. Then gently place your fingers over his closed eyes and slowly repeat the words "sleep", "sleep on" or "sleep deep" at short intervals. The explanation of the production of hypnotic sleep is as follows. The eyes are developed from the forebrain and are really prolongations of it. When the eyes get tired by convergence and staring at a near object, the brain gets tired and when that happens sleep follows. There is no such thing as the operators will-power or animal magnetism or influence that induces sleep. In the tired drowsy state the subject is very suggestible and sleeps when told to. After a minutes silence the subject is fast asleep. Now suggest to him that he is asleep and cannot wake up till told to. To test whether he is properly asleep suggest that he has no power to move a single muscle. Say to him "you have no power to raise

your hand now, you can try" If he is able to move even ever so slightly, he is not fully sleep. Then suggest again to sleep on. After another minute he can be tested again. Now test his sensibility by touching him lightly in several parts of the body or face and by light pin pricks. If after suggesting that he cannot feel anything, he does not move when touched or pricked, he is fast asleep. In this hypnotic state suggestions may be given according to the patients particular ailments or symptoms. Unless the subject is very nervous and hysterical, the first attempt at hypnosis is not often successful but after two or three sittings when the patient is more assured and co-operative, hypnosis follows readily. There are many other methods used in inducing sleep such as staring at a bright light or object in front of the eyes or listening to the monotonous ticking of a metronome or an electric buzzer near the ears. The only disadvantage of staring at the index finger is that the operators hand soon shakes and tires but this method is as successful as any other,

Hypnosis may be used for the revival of repressed memories as well as to elicit answers by automatic writing. It succeeds much better with hysteria than with any other neurotic condition. Under hypnosis even minor harmless operations such as opening a whitlow on dental extraction may be done. It is of special use in removing hysterical anesthesias, paralysis, tics, aphonia, hysterical fits, reviving amnesias and for other neurotic conditions as anorexia nervosa, insomnia, hyperemesis and migranous headaches, encuresis etc. The only drawback with hypnotism is that it does not remove the deeper unconscious motives that are the root cause of the neurosis. For this only psychoanalysis is of help.

Sleeping Suggestion—Another way of administering suggestion is during natural sleep. When the patient is fast asleep

the physician gives therapeutic suggestions. It is only of use where the patient is obdurate against any form of treatment, for instance with alcoholics or with children who are too timid to be suitable for ordinary suggestion. The results however are not satisfactory.

Suggestion in the waking state—This is really a milder form of hypnosis. The preliminaries of inducing sleep are not adopted. The object is to get the patient in a state of abstraction or mild day-dreaming. He is asked to relax mentally and physically and assume a state approaching drowsiness. Then the physician in a low monotone utters the appropriate suggestions concerning the symptoms in just the same way as in hypnotism. This method is only possible with hysterics and those who have been previously hypnotised.

Persuasion—Dubois used this form of treatment with great success and termed it "rational psychotherapy". By this method the patient is asked to relate his symptoms and to give his reasons for their origin or presence. The physician then explains the physical and psychological mechanisms that produce the symptoms complained of, in as simple terms as possible and show how the patients actions or ideas of his condition are wrong or have no foundation and an appeal is made to his better judgment to adjust himself to reality and his environment. Together with the explanation, the patient is encouraged to forget or give up his symptoms or assured that he need have no fears. In most cases friends and relatives have probably already applied persuasion a good deal and failed. The essence of persuasion is really suggestion and like it is superficial in its effects, if not futile. To the psychotic individual his symptoms are actual realities and any amount of persuasion must for obvious reasons be a failure. Persuasion makes no attempt to unearth the real cause of the patients conflicts in

his unconscious and as long as this is not done the symptoms must of necessity persist. It does not follow that persuasion is of no use. On the contrary, in mental hospitals persuasion is being constantly used in the form of appeals to the patients, to behave better, to stop a particular habit, to be obedient in matters of work, play, food, dress, and rest, to be bright and cheerful etc. Constant persuasion and suggestion can be given by the employment of posters carrying popular and forcible slogans that will make a strong appeal to their imagination and incentive, and help to stimulate interest in themselves and their affairs. These posters should be in every room and ward of the hospital. At the Ranchi European Mental Hospital there are posters in every ward with following: "Patients are sent home only from grade 'A'. If you want to go home improve your grade. Don't worry, Keep smiling". It is true that the human element or the personal influence is lacking in these posters, nevertheless they are constant stimuli and reminders to patients to make efforts to get well.

Psychotherapy by moralisation contains the germ of a medicine of the mind, it huddles all the phenomena of thought together pell-mell, it appeals to all sorts of influences besides those of reason, to the sentiments, to the passions and to the patients own automatism.

Reeducation—This term was first used by Morton Prince in 1891. The essence of this method is to minimise the painful affect of psychopathological experience by linking it up with others that have a more pleasant and beneficial influence. An appeal is made to the patients higher ideals, to his morality and aesthetic feelings. In other words, it is an attempt to substitute pleasant ideas in place of painful ones and thereby to forget the latter; a flight back from neuroses to mental tranquility and

health. The man who takes to alcohol to "drown sorrows" does much the same thing. In both cases the root of the mental trouble is not unearthed. Persuasion and reeducation cannot delve into the depths of the unconscious where the trouble lies and hence cannot be said to be a radical form of psychotherapy. In other words these methods do not take into sufficient account the dynamic nature of mental processes or the law of psychic determinism.

Psychoanalysis—The story of psycho-analysis is the story of Sigmund Freud himself, the founder of the psychoanalytical school. His teachings have revolutionised our ideas of the working of the human mind and raised modern psychology to an honourable place among the sciences. He is described as the foremost emancipator of mankind from the hidden tyrannies of the mind and McDougall believes that "Freud has done more for the advancement of psychology than any student since Aristotle". Sigmund Freud, a Jewish doctor of Vienna, first practised in general medicine and after a course of study under Charcot at the Salpetriere in Paris in 1886, he specialised in the treatment of nervous diseases. At this time the hypotheses as to the origin and nature of the neuroses were vague and obscure. From the start Freud made use of hypnotism, first to remove symptoms by suggestion and secondly to gain from the patient some statement as to the cause of the symptoms which in the waking state could be described only imperfectly or not at all.

This exploration of the mind by hypnosis was also practised by Dr. Joseph Breuer of Vienna, who obtained brilliant results in the cure of a girl suffering from hysteria. She became ill after nursing her invalid father and developed paralysis, pains, somnambulism and emotionalism. During hypnosis it was discovered that these symptoms which had no meaning during the waking

state, were all connected with some incident or episode during the father's illness. As these incidents were charged with much emotion they had to be suppressed later on when they came into the girls consciousness and the symptoms of hysteria that followed were clearly some sort of disguised expression. Breuer and Freud made further investigations into the causes of hysteria and they published conjointly in 1895 the famous monograph "Studies in Hysteria" in which the principles of the psychoanalytical theory were first revealed. Briefly, the whole of Freud's psychology is based on the law of psychic determinism which holds that our conscious thoughts do not arise *de novo*, are never isolated or accidental phenomena but are as precisely related to preceding and succeeding ones as are successive physical events. Every thought action, dream, memory, forgetting etc. do not occur by chance but are determined by mental processes which take place in the unconscious, the deeper layers of the mind. From this Freud postulates that man does not possess a free will. The dynamic nature of mental processes in general is residual mainly in the unconscious and it is round the unconscious that the whole of Freud's Psychology revolves. From the moment of birth and even during birth every experience in life is registered in the mind together with the accompanying emotions. The greater majority of our experiences are apparently forgotten but actually are entered in the annals of the Unconscious. Now since the whole instinctual trend of life is to gain and maintain pleasure and to shut out pain, every painful experience or situation is kept out of consciousness i.e. it is repressed. This large store of memories and experiences in the unconscious does not lie inert and ineffectual but ever exerts an upward tendency to reach the conscious layer of the mind. The barrier or censor, however, which exists between the unconscious and foreconscious,

shuts out every experience that will disturb the harmony and well being of the personality. Since the pressure of the unconscious from below for expression is ever present, an outlet must be found, so the censor, by its selective process, allows ideas to filter through but in a disguised and acceptable form

Examples of those are seen in dreams, symptoms of mental disorder, mistakes in speech and action, forgetting, some forms of wit, and through free association. In the chapter on neuroses it was also shown that states of dissociation, somnambulism and automatism are also the expression of the unconscious as the result of intrapsychic conflict.

The unconscious therefore contains the psychic energy, the driving force, Libido (Freud) or *elan Vital* (Bergson), influences the conscious and proceeds simultaneously with it. The greater part of the unconscious is made up therefore of constellations of ideas invested with an emotional tone (affect). These cluster of ideas are termed a complex. Complexes may also exist in the conscious and are largely instinctual in origin. Since the unconscious contains ideas that are repressed because they are painful or not in harmony with the conscious it follows that the aims and wishes of these two parts of the mind are opposed. Therefore all expressions of the unconscious are wish fulfilments. Now of all the instincts none has undergone so much repression during the evolution of so-called civilization as the sexual instinct and the reason for this is that there must exist in every individual the embers of an archaic inheritance of a racial taboo. Freud's main discovery was that every human activity and tendency is connected with the sexual impulse. This libido is the driving force in human behaviour. His sexual theories provoked the most hostile criticism the world over, not only because he taught that psycho sexual functions were an important factor in the

causation of the neuroses, but also because psychosexual activities can be traced back to the early years of childhood. Every individual passes through certain stages of sexual development and though most of us apparently reach normal development there is in each of us a trace more or less of being anchored or fixated at a certain stage of sexual evolution. This fixation governs our activities throughout life without our being aware of it. In Freud's words, "At puberty the impulses and object relations of a child's early years become reanimated and amongst them the emotional ties of his Oedipus complex. The sexual life of puberty is a struggle between the impulses of early years and the inhibitions of the latency period." Further "A person only falls ill of a neuroses when the ego loses its capacity to deal in some way with the libido". Freud next turned his attention to the study of dreams which he has termed the *Via Regia* to the unconscious. The workings of the unconscious finds expression in dreams. During sleep, when the conscious level of the mind is out of action the unconscious asserts itself and is often successful in evading the vigilance of the "censor". Dreams have a protective value in preventing the disturbance of sleep by other external or internal stimuli. If the activity of the censor or the forces of repression are unduly weakened or the repressed ideas strong, their vividness becomes so intense that the conscious level is disturbed, nightmare results and the subject wakes up.

Freud teaches that all dreams are not a haphazard conglomeration of thoughts transformed into hallucinatory experience but wish-fulfilments, but in adults as a rule dreams undergo various processes of transformation. The repressed ideas in the unconscious have to be disguised to pass the censor for, if not they would either be so unpleasant as to result in a nightmare or if in the waking state they would produce a dissociation of the mind,

ending in the appearance of symptoms of a neuroses or a psychosis. The wish expressed by the unconscious is in symbolic form. The following mechanisms take place in all dreams:—

(a) **Condensation.** This is a fusion of several ideas into one composite whole. By this process the dream content is condensed whereby the dream is prevented from becoming unduly protracted. These composite representations are like 'portmanteau words'—For instance, a person dreamed of may resemble A. in appearance but is dressed like B. pursues some occupation which recalls C. Yet all the time you know that it really is D. A good example is given by a patient of Ernest Jones' who dreamed of the scriptural character **Lysanias**, who was the Tetrarch of **Abilene**. On analysis, the patient recalled that at his school which was called the **Lyceum**, he had indulged in **licentious** practises in a old **abbey** with a boy named **Leney**.

(b) **Dramatisation**—The dream thoughts are so arranged or associated as to represent a play or drama with a moral. Sometimes the arrangement of the dream pictures are so distorted or bizarre as to cause more confusion and concealment. Abstract thoughts are translated into visual images. Thus the dreamers right and left may stand for moral right and wrong. Not all thoughts can be translated to visual imagery. Parts of speech, as participles and conjunctions are difficult or impossible to depict, so it is not surprising that such words as "because," "therefore," "but," etc. are not represented in the dream content and the meaning has to be deduced from the context. Another peculiarity of dream formation is the substitution of an idea by its opposite. The actual content is inverted or distorted, as Freud says, "In a dream it is often the hare that shoots the sportsman"

(c) **Displacement**—By this the accent or emphasis is not placed on the most significant or important part of the dream

element but is transferred to some other minor item. Things which appear important in the dream on analysis turn out to be trivial and thoughts which have undergone most repression or which contain the essence as it were of the dream picture may be vaguely imaged.

(d) **Symbolization**—The use of symbols as a means of expression is common in everyday life as well as in folklore, myth, proverb, art, and religion and it is not to be wondered that the unconscious also covers the central repressed idea that strives for expression by the employment of appropriate symbols. Dreams in the adult deal for the most part with repressed sexual desire and contain symbols of a sexual meaning. Symbolism is the only language of the true unconscious and is a sure passport of the camouflaged sexual idea to enter the conscious.

The following are typical universal symbols. All long, expansile or erectile objects, sharp instruments or weapons (snakes, sticks, swords, pistols etc.) are symbols of the male genital organ.

Hollow objects and spaces (bottles, boxes, rooms etc.) symbolise the female genitals.

Movements as flying, floating, falling as well as machinery in action symbolise the sexual act. Workmen frequently allude to the male and female parts of an instrument or machinery or the 'male' & 'female' parts of a screw. The manifest content of the dream is the dream as told by the dreamer soon after waking. The rapidity with which a dream is forgotten is proverbial and where it is remembered it is often fragmentary and is influenced by the process of "secondary elaboration." There is often a great difference in the details of a dream related soon after waking and related after a few hours. In the later recital the dreamer tends to put the dream into a more coherent story and often

omits or alters details and this may be regarded as the final effort of the censor to guard consciousness from a true knowledge of dream thoughts.

The latent content of a dream is the ultimate inner meaning as revealed or interpreted by psychoanalysis. At its core will be discovered the wish that it represents in the unconscious.

In analysing a dream the patient relates the manifest content first, the analyst takes care not to interpret or translate any symbol or meaning but allows the patient by the process of free association to find his own meaning.

Dreams that recur as well as those of a series in a night are closely related to one another and should be considered together in analysis.

In addition to probing the unconscious for a cause of the symptoms of neuroses, dream analysis helps to discover infantile tendencies and armed with this knowledge to reeducate the patient along the road to recovery.

Day dreams are simply flights into a world of phantasy, a voluntary form of temporary mental dissociation in the waking state. They lack the true hallucinatory images of dreams in sleep, but at their base is the achievement of a wish fulfilment.

Technique of psychoanalysis—As stated before, since psychoanalysis is a process of examining the unconscious of a patient the only person who has the best access to this is the patient himself, if shown how to do so. Therefore it is the patient who does all the talking while the analyst tells him nothing whatever except to instruct the patient in the technique and keep him to it. It is really a 'talking cure' and has been criticised as approximating to the confessional where by unburdening his mind and sharing his sorrows with another the patient is supposed

to obtain relief. Psychoanalysis does more than this. It helps the patient to see the origin of his own faults in his symptoms. The fusion and conscious assimilation of dissociated elements is the aim to be striven for. The psychoanalytic method includes free-association, word association, dream analysis, the use of transference and reeducation.

Having made a thorough mental and physical examination of the patient and obtained details of the family history and the symptoms complained of, the patient is advised to attend punctually one hour daily for 6 days in a week. A brief explanation of the method of treatment and what is required of the patient is then given. At each visit the patient is told to lie on a couch in a comfortable position. The analyst sits on a chair at the head of the couch out of the patient's view. From this position the analyst can note every movement, attitude, expression and emotion of the patient, who also is at ease that he is not being stared at. He is then instructed to relate without selection or reserve all the ideas which pass successively through his mind. He is expected to utter everything irrespective of whether the remark is stupid, serious, relevant or irrelevant in his (the patient's) opinion, polite or rude, to the listener, sacred, profane, or obscene. Nothing is to be left unsaid and the mind must be allowed to run as freely as possible. This is known as the method of free association. The analyst says as little as possible, but merely keeps the patient to any line of association. He should avoid asking unnecessary questions or making any suggestion or explanation. For the most part the Doctor is silent and impassive. Occasionally it may be necessary to ask the patient to describe an incident in greater detail. At the first sitting the patient may simply be mute for an hour or on other hand he may pour out a flood of associations impossible to follow.

This is only a verbal barrage and is a sign of resistance. The success of an analysis depends on the amount of rapport that exists between analyst and analysand. This bond or relationship is known as Transference. The Doctor stands in the position of those who during the earlier years dominated the patient's life, especially the father and mother and their surrogates. The patient's attitude to these persons be it anger, fear, hatred, or love is now transferred to the analyst, who should remain emotionally untouched by the transference relation. During the analysis the patient is asked to recount his current dreams and these may be made the starting point of free association.

Dream analysis is simply one of the means towards the first essential of this treatment, namely a knowledge of the contents of the patient's mind and when complete lays bare the repressed unconscious wish. It does not matter on what subject a patient begins his free association, sooner or later he will be led inevitably to some buried complex associated with his symptoms. The speed with which this is unearthed depends on the resistances put up by the patient to retain his symptoms as much as possible.

When an important phase in the patient's life is found to be at the root of his illness he should be asked to narrate it in full and live again through the painful emotional experience which has given rise to the neurotic symptoms. This revival of the memory of the experience, Freud named "psycho-catharsis" and the working off of emotion during the recital of the painful memory, "abreaction." This liberation of pent up emotions often leads to recovery. The aim of psychoanalysis is to enable the patient to discover and appreciate the nature of the mental processes that have led to the appearance of symptoms. Once the complex reaches consciousness and becomes fused with the main body of the personality the symptoms disappear because the patient sees his

symptoms in a new perspective, shorn of their emotional colouring or cloak. The complex becomes subject to all the mental processes of the educated, critical, moral, guiding, conscious ego and super ego. The patient has an insight he had not before, of the nature and meaning of his illness. Further its affect also comes under control and becomes diffused or absorbed instead of being concentrated on or discharging itself uncontrolled into a symptom. The symptoms thus being unmasked now vanish, there being now no cause for it and no force to maintain it. The method of Freud is passive therapy. The patient discovers his own complexes and traces his own symptoms for himself, there is nothing suggested or stressed from without although the phenomenon of transference between analyst and analysand largely assists in removing the barriers that bring the complexes to the surface. The late Dr. Ferenczi, a noted analyst of Budapest, introduced an active form of therapy into psychoanalytic technique in order to shorten the protractedness of Freud's passive methods. For instance it might be required to free an anxiety situation which was avoided through an excess of neurotic fear, thus a patient suffering from claustrophobia is induced before his hour for analysis to remain in a small room alone for a time, to overcome his fears in other similar situations. Similarly a child frightened of the dark is encouraged to go to bed alone, with or without light.

Again certain human relationship should be interdicted for periods, but sexual effort should be encouraged in cases of impotence.

Theory of Jung.

One of Freud's most ardent pupils Dr. C. G. Jung was the first to disagree with the Freudian conceptions ascribing a sexual role to the libido. Jung regards that sexuality is only a partial expression of the life urge, corresponding to the 'elan vital' of

Bergson. This libido is especially concerned with the adaptation of the individual to his environment. Since the libido is weak in some individuals, any obstacle that is insurmountable in life is overcome by avoiding reality and retreating to a world of phantasy i.e., there is a regression to the childish age of play and make believe.

Jung regards the unconscious mind as consisting of two parts, a 'personal' and a 'collective'.

Jung's theory of a universal or 'collective' unconscious which characterises the subliminal life of men and colours not only his individual activity but is an innate archetype of knowledge, borders more on the philosophical than psychological aspect of human activity. The unconscious is not the abode of blind instinctual forces which give rise to conflict but is a great reservoir of psychic and spiritual strength. The cause of neurotic illness lies not so much in the past as in the present. He divides human beings into two main groups i.e. introverts and extraverts.

(a) The former comprise the 'taciturn, impenetrable, often shy natures who form such a vivid contrast to the open sociable serene, friendly and accessible characters'. The introvert is the man of thought, seclusive and reticent. The abnormal counterpart of this type is the precocious dement, melancholic, and paranoic, whose libido, instead of being directed towards adjustment with reality is directed inwards on to himself, resulting in introspective phantasy formation and apathy.

(b) Extraverts are true altruists, the men of action. In the words of Jung "there is a positive movement of subjective interest towards the subject". The pathological types of extroversion are seen in mania and hysteria. Although both Freud and Jung seek to remove neurotic symptoms by tracing them back to their

infantile origins in the unconscious there can be no doubt that Freud's psychology which is essentially individual makes a greater appeal over Jung's whose work is of anthropological interest. A Jungian analysis is never complete because it strives to interpret the patients dreams and phantasies by comparisons from symbolic representations in mythology, folklore, religion, etc. and only acquaints the patient with his numerous potentialities and methods of self realization. The transference towards the analyst is however never liberated.

Adler's individual psychology.

Shortly before Jung, Alfred Adler turned away from the orthodox Freudian school as he conceived that the symptoms of neuroses are simply efforts at overcoming a feeling of inferiority in the psyche. The organism attempts to compensate or even over compensate any state of inferiority or under development be it physical or psychological. If the attempt at mastering a deficiency in the psychic plane is unsuccessful a neurotic reaction is the result. Success at compensating inadequacy gives rise to a more comfortable feeling of superiority.

Any physical shortcoming was capable of producing both physical and mental limitations of inferiority. Every organ inferiority was coloured by a desire to overcome the sense of handicap. History is full of examples of famous men such as Demosthenes, Frederick the Great, Robespierre, Mendelssohn and even Kaiser Wilhelm, who, handicapped by physical infirmities, strove and succeeded in spite of them. Organ inferiority leads to a "will to power". From the theory of organ inferiority he developed the concept of the "Masculine protest". By this he means a striving for power dependent upon the proportion of masculine and feminine tendencies within the personality. A

man endowed with feminine traits feels compelled to assert his masculinity by striving for strength, power, position, or demonstrates his virility by physical violence or sexual excess. A woman with an excess of masculine tendencies or whose feminine traits are inhibited or frustrated tries to ape the man as much as possible. From the Freudian view the root of this characteristic in women can be traced to a penis envy. The unconscious is denied anything but a second place and a neurosis is only a much-ado about nothing. Adler lays special stress on the problems of social relationships, sex life, and success in occupation. Comparing the three theories of Freud, Jung and Adler, we find that Freud believes in a rigid biological psychical determinism for human behaviour; Jung, accepting the Lamarckian doctrine of the inheritance of acquired characteristics believes that man pursues a destiny prepared for him mainly by the unconscious urges of the race; whilst Adler holds it is the will to power which governs both behaviour and symptom, a striving of the ego for assertion. The views of both Adler and Jung have been criticised by the Freudians as being founded on unscientific principles and lacking the support of clinical observation and compromises with the truth regarding the all-pervading force of the sex instinct. Psychoanalysis, as a therapeutic measure, takes six months to a year of daily interviews. In a mental hospital practice it will be found that only a very limited number of cases, mainly the psychoneuroses and "borderline" states—can be so treated.

A combination of hypnosis and analysis may be employed in some cases where the time factor is important and the repressed material difficult to arrive at by free association alone. The main aim of analytic therapy is to change the patients emotional dependence into emotional freedom by proper adjustments to